

PUBLIC WORKS DEPARTMENT

DEVELOPER EXTENSION AGREEMENT

S E W E R

Extension _____

Developer _____

Date _____

PO BOX 1307
1775 12TH AVENUE NW
ISSAQUAH, WA. 98027
(425) 837-3400 / Fax (425) 837-3409

1988

REVISED 2005

**CITY OF ISSAQUAH
PO BOX 1307
Issaquah, WA 98027-1307**

SEWER STANDARDS

MAYOR

Rowan Hinds

CITY COUNCIL

**Harris Atkins
Jim Conner
Ava Frisinger
Richard Jones
David Kappler
Fred Kempe
David Taylor**

CITY ADMINISTRATOR

Leon Kos

DIRECTOR OF PUBLIC WORKS

F. Gregory Wilder

ATTORNEY

Wayne Tanaka

DEVELOPER EXTENSION AGREEMENT - SEWER

Table of Contents

<u>CONTRACT</u>	<u>PAGE</u>	
APPLICATION	SA- 1	
FEES	SA- 1	
	-	
	SA- 3	
 <u>GENERAL PROVISIONS</u>		
WS- 1	DEFINITIONS	WS- 1
WS- 2	PURPOSE	WS- 2
WS- 3	DEVELOPER TO BE INFORMED	WS- 2
WS- 4	DELAY IN COMPLETION	WS- 2
WS- 5	AUTHORITY OF CITY	WS- 2
WS- 6	PLANS AND SPECIFICATIONS REQUIRED	WS- 3
WS- 7	PLANS AND SPECIFICATIONS ACCESSIBLE	WS- 3
WS- 8	OWNERSHIP OF PLANS	WS- 3
WS- 9	EASEMENTS	WS- 3
WS-10	ROYALTIES AND PATENTS	WS- 4
WS-11	OMISSIONS AND DISCREPANCIES	WS- 4
WS-12	INSPECTIONS AND TESTS	WS- 4
WS-13	QUALITY OF MATERIALS AND WORKMANSHIP	WS- 5
WS-14	COMPLIANCE WITH PUBLIC AUTHORITY	WS- 5
WS-15	MATERIALS LISTS AND SPECIFICATIONS	WS- 5
WS-16	GUARANTEE BY MANUFACTURER	WS- 5
WS-17	DETERMINATION OF "AS EQUAL"	WS- 6
WS-18	PERMITS	WS- 6
WS-19	POINTS AND INSTRUCTIONS	WS- 6
WS-20	LIABILITY INSURANCE	WS- 6
WS-21	CONTRACTORS	WS- 7
WS-22	SANITATION	WS- 7
WS-23	DEVELOPER'S SUPERVISION AND RESPONSIBILITY	WS- 7
WS-24	INDEMNITY	WS- 7
WS-25	EXISTING UTILITIES OR OBSTRUCTIONS	WS- 8
WS-26	PUBLIC HAZARD OR INCONVENIENCE	WS- 8
WS-27	PROTECTION OF WORK AND PROPERTY	WS- 9
WS-28	PAVEMENT REMOVAL	WS- 9
WS-29	RESTORATION OF IMPROVEMENTS	WS- 9
WS-30	ACCESS	WS- 9
WS-31	TRAFFIC MAINTENANCE AND PROTECTION	WS- 9
WS-32	CONFINEMENT OF CONTRACTOR'S OPERATIONS	WS-10
WS-33	USE OF WATER	WS-10
WS-34	OTHER WORK	WS-11
WS-35	USE OF COMPLETED PORTIONS	WS-11
WS-36	DEFECTIVE WORK AND CORRECTIVE ACTION	WS-11

TECHNICAL SPECIFICATIONS (CONT'D.)

PART THREE - CONSTRUCTION (CONT'D.)

	<u>PAGE</u>
3 -14 TESTING OF NONPRESSURE SEWER DEFLECTION TESTING FOR FLEXIBLE SEWER PIPE	S -16
3 -15 TESTING OF PRESSURE SEWER PIPE	S -17
3 -16 SIX INCH (6") SIDE SEWER	S -17
3 -17 CONNECTION TO EXISTING SYSTEM	S -17
SANITARY SEWER GENERAL NOTES	SGN - 1
	--
	SGN - 3

ATTACHMENTS

BILL OF SALE
MAINTENANCE AGREEMENT (CASH)
EASEMENT

STANDARD DETAILS

	<u>NO.</u>
STANDARD MANHOLE/NEW MANHOLE ON EXISTING SEWER	S - 1
OUTSIDE DROP STRUCTURE	S - 2
INSIDE DROP STRUCTURE	S - 3
SPECIAL MANHOLES	S - 4
MANHOLE ADJUSTMENT SECTION DETAIL	S - 5
MANHOLES ADJUSTMENT SECTION DETAIL (UNPAVED AREA)	S - 6
24" MANHOLE FRAME WITH COVER	S - 7
LADDER AND MANHOLE STEP	S - 8
PIPE BEDDING AND CLEANOUTS	S - 9
SIDE SEWER STUBS	S -10
SOIL/CEMENT PIPE ANCHOR	S -11
TIMBER BAFFLE/HILL HOLDER	S -12
HOUSE SEWER CONNECTION	S -13
SANITARY SEWER TYPICAL TRENCH DETAIL	S -14
TYPE II - 72" MANHOLE	S -15

GENERAL PROVISIONS (CONT'D.)

	<u>PAGE</u>
WS-37 SPECIAL CONSTRUCTION PROVISIONS	WS-12
WS-38 SPECIFICATIONS INCORPORATED BY REFERENCE	WS-12
WS-39 CLEANUP	WS-12
WS-40 FINAL INSPECTION AND ACCEPTANCE	WS-12
WS-41 AS-BUILT DRAWINGS	WS-13
WS-42 BILL OF SALE	WS-13
WS-43 MAINTENANCE BOND	WS-13
WS-44 ATTORNEY FEES	WS-13
WS-45 SAFETY	WS-13
WS-46 NOTICE TO PROCEED	WS-14

TECHNICAL SPECIFICATIONS

PART ONE - DESIGN STANDARDS FOR SEWER

1 - 1 DESIGN STANDARDS	S - 1
1 - 2 DRAWING STANDARDS	S - 2

PART TWO - MATERIALS

2 - 1 GENERAL	S - 4
2 - 2 GUARANTEE BY MANUFACTURER	S - 4
2 - 3 SEWER PIPE AND APPURTENANCES, NONPRESSURE	S - 4
2 - 4 SEWER PIPE AND APPURTENANCES, PRESSURE	S - 5
2 - 5 MANHOLES	S - 5
2 - 6 IMPORTED BACKFILL MATERIALS	S - 7
2 - 7 OVER EXCAVATION	S - 8
2 - 8 BEDDING MATERIALS	S - 8
2 - 9 ASPHALTIC CONCRETE	S - 8
2 -10 TOP COURSE AND KEYSTONE MATERIAL	S - 9
2 -11 BASE COURSE MATERIAL	S - 9
2 -12 CONCRETE BEDDING	S - 9

PART THREE - CONSTRUCTION

3 - 1 GENERAL	S -10
3 - 2 TRENCH EXCAVATION	S -10
3 - 3 BORING	S -10
3 - 4 ROADWAY AND RAILWAY CROSSINGS	S -11
3 - 5 TRENCH FOUNDATION	S -11
3 - 6 BEDDING MATERIAL PLACEMENT	S -11
3 - 7 GRADE LINE	S -12
3 - 8 PIPE LAYING	S -12
3 - 9 PIPE JOINTS	S -13
3 -10 MANHOLES	S -13
3 -11 BACKFILLING	S -14
3 -12 COMPACTION OF BACKFILL	S -15
3 -13 CLEANING AND FLUSHING	S -15

SEWER CHECKLIST

CITY OF ISSAQUAH

PUBLIC WORKS DEPARTMENT

DEVELOPER EXTENSION CHECKLIST

Name of

Development

Developer

Name

Address

Phone

Contractor

Name

Address

Phone

A. Preliminary

- | | | |
|-------|--|-----------|
| _____ | 1. Application form completed | Developer |
| _____ | 2. Sign Annexation Petition (if necessary) | Developer |
| _____ | 3. Amend Comprehensive Plan (if necessary) | City |
| _____ | 4. Preliminary fee paid \$ _____ | Developer |
| _____ | 5. Application approved | City |

B. Required before Plans are Started

- | | | |
|-------|---|-----------|
| _____ | 1. Grading Plan and Profile filed with City | Developer |
| _____ | 2. Drainage Plans and Profile filed with City | Developer |

C. Predesign Conference

- | | | |
|-------|---|------|
| _____ | 1. Meeting with Developer's Engineer/
Representative | City |
| _____ | 2. City Standards and Specifications explained. | City |
| | a. Format and completeness of design. | |
| | b. Construction Standards | |
| | c. City requirements specific to project. | |

D. Required before Extension is Staked in Field

- | | | |
|-------|--|------------|
| _____ | 1. Plans and Specifications approved | City |
| _____ | 2. Plans and Specifications sent to Metro
and Department of Ecology for approval. | City |
| _____ | 3. Application for City, State and/or County
R.O.W. Permits | City |
| _____ | 4. Approval of Contractor | City |
| _____ | 5. Approval of Contractor's Supplier | City |
| _____ | 6. Performance Bond | Developer |
| _____ | 7. Contractor's Cash Deposit | Contractor |
| _____ | 8. Certificate of Insurance | Developer |
| _____ | 9. Easements | City |
| _____ | 10. County Road and/or Highway and City Permits
Picked Up | City |
| _____ | 11. Property boundary stakes in place. | Developer |
| _____ | 12. Metro and DOE approval received. | City |

E. Required before Construction Begins

_____	1. Preconstruction Conference	City
_____	2. Material and Equipment List	Contractor
_____	3. 48-Hour Notice to City of Starting Date	Contractor
_____	4. Construction stakes in place.	Contractor
_____	5. Easements Recorded	Developer

F. Required before any Service Connected

_____	1. Approval of Construction, Acceptance Testing Complete	City
_____	2. Final Fee Calculated and Paid \$ _____	Developer
_____	3. Executed Bill of Sale delivered to City	Developer
_____	4. Certification of Costs	Developer
_____	5. Maintenance Bond filed with City.	Developer
_____	6. As-Built Drawings filed with City. (Stamped and Certified by Design Engineer)	Developer
_____	7. Final Acceptance for City ownership and operation.	City

G. To be done One Year after Acceptance

_____	1. Final Inspection just prior to expiration of 12-month warranty period.	City
_____	2. Release of Maintenance Bond	City

H. Miscellaneous

_____	1. Bill of Sale Recorded	City
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"N/A" Indicates Item Not Applicable

* Developer's Engineer when designated by Developer

PW:16:12



CITY OF ISSAQUAH
PUBLIC WORKS DEPARTMENT

(206) 391-1004

APPLICATION FOR PERMISSION TO CONSTRUCT
EXTENSION TO SEWER COLLECTION SYSTEM

The undersigned, hereafter referred to as "Developer", hereby makes application to City of Issaquah, a municipal corporation of the State of Washington, hereafter referred to as "City", for permission to construct and install an extension in the City right-of-way and/or on easements which are subject to the City and to connect the same to the sanitary sewer collection system of the City and makes the following representations and agreements, to wit:

1. LOCATION OF EXTENSION

The proposed extension will be installed in roads and/or easements and/or on other approved rights-of-way and shall be for the use and benefit of the property hereafter described, which property is owned by the Developer and/or other owners who are contributing to and are responsible for the costs of said extension; said other owners join in this application; that said property is described as follows:

(Attach legal description of property.)

2. DESCRIPTION OF EXTENSION

The proposed extension will provide sewer service to the property described in Paragraph 1 and shall consist of approximately _____ lineal feet of sewer pipe and appurtenances. The proposed extension shall be installed in accordance with Plans and Specifications provided by the City.

3. FEE SCHEDULE

All services provided under this contract by the City shall be covered by the preliminary fee except as outlined in "B" and "C" below.

A. PRELIMINARY FEE

- (1) Preliminary fee payment shall be \$400 plus \$2.20 per lineal foot of main, as determined by the City. In addition, a charge for flushing water of \$100 plus \$0.05 per foot of main line for all footage over 1,000 feet. This fee shall be paid to the City at the time the application is submitted.

APPLICATION FOR PERMISSION TO CONSTRUCT
EXTENSION TO SEWER COLLECTION SYSTEM

A. PRELIMINARY FEE (Cont'd.)

- (2) List of some of the items charged to the Preliminary Fee Account: all services related to the preliminary design, checking conformity with the Comprehensive Plan, design checking, agency approvals, contract negotiation, contract administration, consulting engineering, contractor approval, materials approval, construction inspection, flushing water, acceptance testing, punch list inspection, final review, legal services and document recording, plus fifteen percent for overhead.

B. ADDITIONAL SERVICES

The foregoing fees are not intended to include allowance for any unusual costs incurred by the City on account of property surveys, changes in design, errors or omissions by the Developer, his Contractor or agents, unusual negotiations, legal expenses incurred beyond the expense of normal review of documents, and any other such unusual costs. The City will bill the Developer for any such unusual costs on an actual cost plus fifteen percent for overhead basis. Inspection and Administration, outside the normal working hours, will be billed at the rate of \$45.00 per hour.

C. OTHER FACILITIES

The expense for preparations of Plans and Specifications for all facilities other than on-site mains (off-site mains, lift stations, etc.) shall be reimbursed by the Developer to the City based on actual fees charged to or incurred by the City plus fifteen percent overhead.

D. FINAL FEES

If the actual footage exceeds the amount paid for under the preliminary fees, the Developer will, prior to final acceptance, pay for the actual footage installed. In the event the footage is less than paid for, the City will reimburse to the Developer the amount due.

APPLICATION FOR PERMISSION TO CONSTRUCT
EXTENSION TO SEWER COLLECTION SYSTEM

4. PAYMENT OF FEES

A. PRELIMINARY FEE paid at time of application.

- (1) Base Amount \$ _____
- (2) Extension of _____ Lineal Feet.
(\$2.20 per LF with a \$1,100 minimum) _____
- (3) Flushing Water Charge (\$100 for
first 1,000 LF of main and \$0.05
per LF thereafter). _____

TOTAL PRELIMINARY FEE \$ _____

B. FINAL FEES paid before final acceptance.

- (1) Actual extension of _____ Lineal
Feet. (\$2.20 per LF with a \$1,100
minimum). \$ _____
- (2) Actual flushing charge (\$100 for
first 1,000 LF of main and \$0.05
per LF thereafter). _____
- (3) Design Revision Review
(\$45.00 per hour). _____
- (4) Additional Inspection and Administration
Fees (\$45.00 per hour). _____
- (5) Additional Service Charges _____

TOTAL FINAL FEE TO BE PAID \$ _____

APPLICATION FOR PERMISSION TO CONSTRUCT
EXTENSION TO SEWER COLLECTION SYSTEM

Acceptance of this application by the City constitutes a contract with the applicant, the terms of which are each paragraph of this manual.

DATED AT _____, Washington, this _____
day of _____, 19 ____.

The foregoing application accepted this _____
day of _____, 19 ____.

CITY OF ISSAQUAH

By: _____
Public Works Director

GENERAL PROVISIONS WATER AND SEWER

WS-1 DEFINITIONS

- (a) "City" means City of Issaquah, a municipal corporation, or the Director of Public Works and his authorized representatives.
- (b) "Engineer" means the Consulting Engineer, or Staff Engineer and the Engineer's representatives.
- (c) "Developer" means the owner and/or other owners of property to be benefited by the proposed extension, including the Developer's agents.
- (d) "Contractor" means the person or firms employed by the Developer to do any part of the work, all of whom shall be considered agents of the Developer.
- (e) "Work" means the labor, materials, superintendence, equipment, transportation, supplies and other facilities necessary or convenient to the completion of the proposed extension described in the application attached hereto.
- (f) "Plans" means all drawings, lists, notes and instructions including reproductions thereof, for the work to be done as an extension to the City system, prepared or approved by the City Engineers.
- (g) "Specifications" means the directions, provisions and requirements designated by the City for the performance of the work and for the quantity and quality of materials.
- (h) "Otherwise Specified" or "As Specified" means the directions contained in the Plans, Special Specifications, if any, and otherwise as given by the City incident to the performance of the work other than in these General Specifications.
- (i) "Public Works Director" means the Director of Public Works or his designated representatives.

GENERAL PROVISIONS WATER AND SEWER

WS-2 PURPOSE

City of Issaquah, as a municipal corporation, has a responsibility to the public to insure that water and sewer mains laid on public streets or easements are constructed in accordance with currently accepted standards for public work. The requirements imposed upon Developers by these regulations are not arbitrary, but are intended by the City as a contract with the Developer, incorporating minimum standards which are prerequisite to acceptance of the work by the City as a part of its water and sewer systems. Privately constructed extensions will not be accepted by the City and no service connections will be permitted thereto unless the work is performed and paid for in accordance with these regulations.

WS-3 DEVELOPER TO BE INFORMED

The Developer is expected to be fully informed regarding the nature, quality and extent of the work to be done, and if in doubt, to secure specific instructions from the City.

WS-4 DELAY IN COMPLETION

The Developer and his Contractor are expected to carry on the work and to complete it without unnecessary delay once the work has begun. If the work is not completed and ready for final inspection and acceptance within 18 months from the date of execution of this agreement, the City may revoke its approval of the Developer's application, or it may impose reasonable conditions as a prerequisite to continuation of the work, including a charge to be paid by the Developer for such cost or damage as the City may have suffered because of the delay.

WS-5 AUTHORITY OF CITY

The City shall have general supervision and direction of the work and shall have authority to stop work whenever in the opinion of the City the same shall be necessary to insure compliance with the Plans and Specifications. The City shall have authority to reject work and materials which do not so conform and to decide questions which may arise in the execution of the work.

Failure or omission on the part of the City to condemn unsuitable, inferior or defective work shall not release the Developer or his bond from performing work in accordance with this contract. City representatives have no authority to waive the obligation of the Developer to perform work in accordance with this contract.

GENERAL PROVISIONS WATER AND SEWER

WS-6 PLANS AND SPECIFICATION REQUIREMENTS

Plans and Specifications shall be prepared for the Developer by a Professional Engineer registered in the State of Washington in accordance with the terms of this contract. Further, the design shall be in accordance with the City's Comprehensive Water Plan or Wastewater Plan, prudent engineering practice and all applicable governmental regulations and laws.

The Director of Public Works shall have the final authority in approval of all plans and specifications submitted by the Developer. No work shall commence until Plans and Specifications have been approved and a Notice to Proceed issued.

WS-7 PLANS AND SPECIFICATIONS ACCESSIBLE

The Developer shall have one copy of the Plans and Specifications constantly accessible on the job.

WS-8 OWNERSHIP OF PLANS

- (a) All Plans and Specifications prepared by the Developer's Engineer and submitted to the City as a condition of this contract shall be the property of the City.
- (b) All Plans and Specifications and copies thereof prepared or furnished by the City are the property of the City. They may not be used for other work and, with exception of two (2) sets, shall be returned to the City on request at the completion of the work.

WS-9 EASEMENTS

All easements required shall be obtained by the Developer without cost to the City and shall provide for a permanent easement and construction easement as shown on the Plans. The Developer shall provide the City with supporting data to verify the location of all easements. In the event that legal services are required incident to easements beyond review of the form thereof, the costs of such services shall be paid by the Developer.

- (a) Any required easements shall be obtained (in the name of the City) by Developer at his expense using the City's standard form. A copy of such recorded easement shall be delivered to the City prior to commencement of construction. Prior to acceptance of said extension, the original easement shall be delivered to the City. The Developer shall provide all necessary easements at his sole cost regardless of changes in the Contract Plans and, if required, a title insurance policy

GENERAL PROVISIONS WATER AND SEWER

WS-9 EASEMENTS (Cont'd.)

in a sum not less than \$1,000 per 500 linear feet of easement free and clear of encumbrances. The City may require the Developer to provide a survey of the as-built improvement to verify its location in the easement.

(Note: As a general rule, the City places its facilities within established rights-of-way; exceptions which may require easements will be evaluated on a case-by-case basis.)

WS-10 ROYALTIES AND PATENTS

Developer shall pay all royalties and license fees and defend all suits or claims for infringement of any patent rights and shall save the City harmless on account thereof, except the City shall be responsible for all such loss if a particular process or the product of a particular manufacturer is specified by the City, unless the Developer or his Contractor has information that the process or article is an infringement of a patent and fails to promptly notify the City thereof in writing.

WS-11 OMISSIONS AND DISCREPANCIES

The Developer shall carefully study and compare all drawings, specifications, and other constuctions and shall report in writing to the City any error, inconsistency or omission. If in the course of construction any discrepancies between the drawings and the physical condition of the site are found the Developer shall notify the City immediately in writing. Any work done after such discovery and before City approved changes to the Plans and Specifications will be done at the Developer's risk.

WS-12 INSPECTION AND TESTS

All work shall be subject to full-time inspection by the City. The City shall at all times have access to the work wherever it is in preparation or progress, and the Developer shall provide proper facilities for such access and inspection. The Developer shall make reasonable tests of the work at the Developer's expense upon the City's request. Whenever work must be specially tested or inspected for compliance with public regulations, or with the Plans and Specifications, the Developer shall give the City reasonable notice of the readiness of the work for such test or inspection. The City shall make inspections within 24 hours of notification by the Developer. Work must not be covered up without consent of the City, and if it should be covered without such consent, it must be uncovered for inspection at the Developer's expense if requested by the City.

GENERAL PROVISIONS WATER AND SEWER

WS-13 QUALITY OF MATERIALS AND WORKMANSHIP

Unless otherwise specified, all materials shall be new, and workmanship and materials shall be of the highest quality commonly used. The Developer shall, if required, furnish satisfactory evidence as to the kind and quality of materials.

WS-14 COMPLIANCE WITH PUBLIC AUTHORITY

The work shall be done in accordance with regulations of each public authority, including the state, county, public health departments, and municipalities, which may have jurisdiction over the manner and quality of performance of the work. The public shall not be inconvenienced unnecessarily in its use of the public streets. The Developer shall enforce discipline and good order among his employees and shall not employ on the work any unfit person or anyone not skilled in the work assigned to him. Employees or agents of the Developer who may impair the quality of the construction shall be removed from the work upon the written request of the City.

All construction in public roads or rights-of-way shall be done in accordance with the standards and requirements of the governmental agency having jurisdiction, and in accordance with requirements of the franchise or permit therefore. The Developer shall be responsible to ascertain these requirements.

WS-15 MATERIAL LISTS AND SPECIFICATIONS

The Developer or his Contractor shall deliver to the City a material list not less than ten (10) days prior to commencement of the Construction. The list shall contain the manufacturer or model number, if applicable, of the material and equipment to be installed as a part of the work so that the City may determine whether such materials conform to the Plans and Specifications. No materials shall be installed as a part of the work which are not included in the material list.

The manufacturer's technical specifications for pipe, appurtenances and equipment to be incorporated into the work shall be submitted to the City at least ten (10) days prior to commencement of construction with material listed.

WS-16 GUARANTEE BY MANUFACTURER

If requested by the City or the Engineer, a written guarantee made by the manufacturer of any materials to be incorporated into the work shall be furnished, guaranteeing to the City that such materials shall conform to these Specifications and the Specifications otherwise applying to the work.

GENERAL PROVISIONS WATER AND SEWER

WS-17 DETERMINATION OF "AS EQUAL"

The City shall be sole judge whether supplies or materials qualify "as equal" substitutions under the Plans and Specifications.

WS-18 PERMITS

The Developer shall not begin work until all necessary permits have been issued by public authorities. The Developer shall reimburse the City for all costs incurred by the City for permits, inspection fees and other charges imposed by public authorities because of the work.

WS-19 POINTS AND INSTRUCTIONS

The Developer shall provide all property corners, street and easement centerline stakes, and shall provide reasonable and necessary opportunities and facilities for setting points and making measurements.

The Developer shall carefully preserve bench marks, reference points and stakes.

WS-20 LIABILITY INSURANCE *

Developer shall obtain and continuously maintain insurance covering public liability property damage which may arise as a result of work under this contract, including all work done by subcontractors. This insurance shall name the City as an additional assured and shall be primary with respect to any other coverage available to the City. The policy or policies of insurance shall bear an endorsement or statement providing that they will not be cancelled or reduced without 10 days prior to written notice to the City. Minimum limits of the insurance shall be not less than \$500,000 bodily injury each person, \$1,000,000 per occurrence and property damage \$500,000 combined single limit. Nothing contained in this requirement is to be construed as limiting the extent of the Developer's responsibility for payment of damages resulting from work performed under this contract.

* Revised 3/15/88

GENERAL PROVISIONS WATER AND SEWER

WS-21 CONTRACTORS

At least five (5) days prior to the start of work by any person or firm, the Developer shall notify the City in writing of the name of the person or firm proposed to do the work and shall not employ any person or firm for any part of the work that the City may object to as incompetent or unfit. Nothing herein shall create any contractual rights between the City and any person or firm employed to do the work.

WS-22 SANITATION

Necessary sanitation convenience for the use of workmen on the job, properly secluded from public observation, shall be provided and maintained during the performance of the work.

WS-23 DEVELOPER'S SUPERVISION AND RESPONSIBILITY

The Developer shall keep on the work during its progress a competent supervisor who shall represent the Developer during his absence, and to whom instructions may be given as though to the Developer. The supervisor shall make himself familiar with these general provisions and the Plans and Specifications and shall perform the work in accordance therewith.

WS-24 INDEMNITY

The Developer shall indemnify, defend and hold harmless the City, its officers, agents and employees, from and against any and all claims, losses or liability, including attorney's fees, arising from injury or death to persons or damage to property occasioned in whole or in part by any act, omission or failure of the Contractor, its officers, agents and employees, in performing the work required by this agreement; provided, however, to the extent any of the damages referenced by this paragraph were caused by or resulted from the concurrent negligence of the City, its agents or employees, the obligation to indemnify is valid and enforceable only to the extent of the negligence of the Contractor, its officers, agents and employees. With respect to the performance of this agreement and as to claims against the City, its officers, agents and employees, the Contractor expressly waives its immunity under Title 51 of the Revised Code of Washington, the Industrial Insurance Act, for injuries to its employees and agrees that the obligation to indemnify, defend and hold harmless provided for in this paragraph extends to any claim brought by or on behalf of any

GENERAL PROVISIONS WATER AND SEWER

WS-24 INDEMNITY * (CONT'D.)

employee of the Contractor. This waiver is mutually negotiated by the parties. This paragraph shall not apply to any damage resulting from the sole negligence of the City, its agents and employees.

WS-25 EXISTING UTILITIES OR OBSTRUCTIONS

Existing utilities and obstructions are shown on the Drawings so far as known to the Engineers and the City, but may have been obtained from old drawings or verbally from persons connected with a particular utility. Such information is not guaranteed but is made available to the Developer for such value as it may have. In completeness or errors in this information shall not be the cause of claim against the Engineer or the City nor shall it relieve the Developer of responsibility for repairing any damage his activities may cause to such utilities. The Developer shall reimburse the City for damage to property of the City or damage to property of others for which the City is liable, caused by the Developer and for other expense, including attorney's fees and court costs incurred by the City because of such damage. Whenever the Contractor fails to repair or restore existing improvements damaged by his operators within 72 hours of notice, the City may order said work done by others and all costs incurred shall be paid by the Developer. The City recommends the use of One-Call for underground utility locations, the number is available at the City.

WS-26 PUBLIC HAZARD OR INCONVENIENCE

If the performance of the work should result in hazard or substantial inconvenience to the public, the City may correct the same, if in the opinion of the Director of Public Works, the correction is necessary. The Developer shall, on request, reimburse the City for the expense incurred. The Developer shall also reimburse the City for the expense incurred in complying with any order of public authority lawfully made with respect to the work during the performance of the work or within one year after acceptance of the same.

* Revised 3/15/88

GENERAL PROVISIONS WATER AND SEWER

WS-27 PROTECTION OF WORK AND PROPERTY

No damage to the property of the City or the work shall be permitted as the result of anything done hereunder. The risk of loss or damage to the work shall be borne by the Developer until work is completed and accepted by the City.

WS-28 PAVEMENT REMOVAL

Removal of existing paving in public roads shall be done in accordance with the governing agency's requirements and in private property shall be precut to one foot wider than the trench shoulder line and to a neat vertical edge.

WS-29 RESTORATION OF IMPROVEMENTS

Culverts, driveways, roadways, pipe lines, or other existing improvements which are removed or disturbed in the course of the work shall be restored to their original condition at the expense of the Developer. In cutting through established lawns, the sod shall be removed before trenching and replaced after backfilling to the satisfaction of the property owner. A signed release from the affected property owner will be required.

In areas where restoration of existing improvements will be necessary, if requested by the City, the Developer shall provide photographs consisting of one 8" X 10" black and white photo or equivalent for at least each fifty-foot (50') section within the area prior to construction.

WS-30 ACCESS

Bridging shall be provided across private driveways and roadways during the period when trenches are open, so as to interfere as little as possible with the normal flow of traffic.

WS-31 TRAFFIC MAINTENANCE AND PROTECTION

The work shall be performed so that interferences with automotive and pedestrian traffic will be minimized. Adequate flagmen shall be provided for traffic control during unloading of materials and during actual construction. Soft shoulders shall be plainly marked to warn motorists. Access shall be provided across trenches in roads and driveways on the same calendar day as excavation was started.

GENERAL PROVISIONS WATER AND SEWER

WS-31 TRAFFIC MAINTENANCE AND PROTECTION (CONT'D.)

The City may require the construction of two-way vehicular bridges of approved construction on important streets. Where detours are built, they shall be graded and maintained to the satisfaction of the City or applicable governmental authority.

Where construction has been completed or is in progress in existing streets, the streets shall be graded and maintained to the satisfaction of the City and proper dust and mud control shall be provided. No detours for foot traffic shall be more than one block in length and where crossing trenches, detours shall be provided with adequate foot bridges with handrails.

All work shall be performed with due regard for the safety and convenience of the public. Open trenches shall be provided with barricades that can be seen at a reasonable distance and adequately lighted at night. Adequate lighting shall be provided for vehicle and pedestrian bridges and signs.

At least half of streets affected by construction shall be left open for traffic and emergency vehicles at all times. Traffic maintenance protection and control must comply with the MUTCD.

WS-32 CONFINEMENT OF CONTRACTOR'S OPERATIONS

The Contractor shall confine construction activities within the property of the Developer and the limits of easements and construction permits outside of the Developer's property. All work on easements and permit areas outside the Developer's property shall be performed in strict compliance with the provisions of the easement or permit, with which provisions the Contractor shall familiarize himself. Any damage to property or persons from any encroachment beyond these limits shall be the responsibility of the Developer. Equipment and materials storage shall be confined to the Developer's property. Pipe strung on public right-of-way shall be placed a safe distance from any traveled road in such manner as to avoid accidental rolling onto the road. No driveways shall be blocked. Lighted barricades in an adequate number and location shall be provided.

WS-33 USE OF WATER

The Developer may be charged, at the City's wholesale rate, for water used in construction, street cleaning or other, and for main flushing if deemed excessive by the City.

GENERAL PROVISIONS WATER AND SEWER

WS-34 OTHER WORK

The City has the right to let contracts for other work which may affect the work hereunder. Other persons performing such other work shall be afforded reasonable opportunity for introduction and storage of their materials and execution of their work. The work hereunder and such other work shall be properly coordinated and connected.

If any of the work hereunder depends on the proper execution of the work of other persons, the Developer shall inspect and promptly notify the City in writing of any defects in such other work which render it unsuitable for the execution of the work hereunder. The Developer's failure to inspect and notify the City shall constitute acceptance of the other work as suitable.

The City is not obligated to provide service to the Developer's property if the other work has not been completed and accepted by the City and it is necessary to provide service to the Developer's property.

Wherever work is being done by the City or Contractors not employed by the Developer, contiguous to the work hereunder, the respective rights of the various interests involved shall be established by the City to secure the completion of the various portions of the work in general harmony.

WS-35 USE OF COMPLETED PORTIONS

The City shall have the right to take possession and use any completed or partially completed portions of the work although the time may not have expired for completing the entire work, and this shall not be deemed acceptance of any work not done in accordance with the Plans and Specifications. However the City is not obligated to supply service to the Developer's property until all work is completed and accepted by the City.

WS-36 DEFECTIVE WORK AND CORRECTIVE ACTION

During construction, work which is found by the City not to comply with the Plans and Specifications shall be remedied so as to comply therewith. Subsequent to completion and within one year after the work has been accepted by City Council, the Developer shall correct or replace any defective work or material discovered by the City. Such correction or replacement shall commence within seven days from the time of receipt of notice from the City and shall be completed promptly.

GENERAL PROVISIONS WATER AND SEWER

WS-36 DEFECTIVE WORK AND CORRECTIVE ACTION (CONT'D.)

If not so commenced, or, in emergency, when damage may result from delay, such correction or replacement may be made by the City at the expense of the Developer. The Developer shall reimburse the City, upon demand, for any expense resulting from defects which appear within one year after acceptance of the Developer's work, including actual damages, cost of materials and labor expended by the City in making emergency repairs, cost of legal expense, attorney's fees and costs reasonably incurred by the City as a result thereof.

WS-37 SPECIAL CONSTRUCTION PROVISIONS

Any special equipment such as pump stations or pressure reducing stations shall be constructed in accordance with the Plans and Specifications supplied by the City.

WS-38 SPECIFICATIONS INCORPORATED BY REFERENCE

Where federal, AWWA, ASTM, APWA, Standard Specification for Road, Bridge, and Municipal Construction, or any other standard specifications are referenced to, or included by reference, the last issue and/or amendment thereto published at the date of approval of the agreement by the City shall be incorporated in the contract by said reference as if set forth herein in full.

WS-39 CLEAN UP

The construction site shall be kept clean during the progress of the work. Before the work shall be considered complete, the Developer shall clean out ditches that may have been filled during the work, replace damaged surfacing, removed surplus materials and trash and dispose of brush, repair all damages, and otherwise leave the job in a neat, orderly and workmanlike condition.

WS-40 FINAL INSPECTION AND ACCEPTANCE

All material and completed work are subject to final inspection by the City, who shall have the right to subject any portion thereof to such tests as in the opinion of the City shall be necessary to determine whether or not the work compiles with the Plans and Specifications.

GENERAL PROVISIONS WATER AND SEWER

WS-41 AS-BUILT DRAWINGS

As-built drawings showing the system as actually installed shall be prepared under the direction of a Professional Engineer registered in the State of Washington (1 Mylar and 3 Copies). If the drawings are performed on a computer in Autocad, a 5-1/4" or 3-1/2" floppy disk, properly labeled, shall also be provided.

WS-42 BILL OF SALE

Upon completion of the work and approval of the City, the Developer shall, as a condition of acceptance by the City, convey the work to the City by bill of sale, a form of which is included in this document.

WS-43 MAINTENANCE BOND

Upon completion of the work and approval of the City, the Developer shall, as a condition of acceptance by the City, supply to the City a Cash Maintenance Bond (form is included in this document), to guarantee all materials and workmanship for a period of one year, in the amount of 30% of the actual construction cost.

WS-44 ATTORNEY FEES

In the event any action is commenced to enforce this Agreement, by the City, and the issues therein are thereafter settled or the City prevails, Developer shall reimburse the City all costs of litigation, including but not limited to overhead expense attributable thereto and reasonable attorney's fees, and without reference to whether such costs would be taxable in the action.

WS-45 SAFETY

Developer shall take all necessary precautions for the safety of employees on the work and shall comply with all applicable provisions of federal, state and municipal law with regard thereto. Developer shall erect and properly maintain at all times, as required by the condition and progress of the work, all necessary safeguards for the protection of employees and the public, shall post danger signs warning against known or unusual hazards and shall designate a responsible member of its organization on the construction site whose duty shall be prevention of accidents. The name and position of such person shall be reported in writing to the Director of Public Works.

GENERAL PROVISIONS WATER AND SEWER

WS-46 NOTICE TO PROCEED

No work shall commence prior to the issuance of a written "Notice to Proceed" order by the Director of Public Works. Issuance of the Notice to Proceed shall occur only after all conditions set forth in this agreement have been satisfied.

16:14

TECHNICAL SPECIFICATIONS

PART ONE - DESIGN STANDARDS FOR SANITARY SEWER SYSTEMS

1-1 DESIGN STANDARDS

The proposed extension shall be designed by a registered professional engineer and shall conform to good engineering practices, as the City determines, to provide a desirable system of sanitary sewer complying with governmental regulations and requiring a minimum of maintenance. The system may incorporate the following specific features, but regardless of the following, the decision of the City with respect to design shall control:

- (A) The extension shall incorporate adequate capacity to provide for future expansion of the system in conformity with the City's comprehensive planning and future needs.
- (B) Pipe sizes and grades shall be selected in accordance with good engineering practice. No grade shall be permitted resulting in a velocity of less than two feet per second at design flow. Lines shall be on straight alignment and uniform grade between manholes.
- (C) All lines shall be a sufficient depth to drain basements and be protected against damage by frost and traffic. Lines in deep or excessively wide trenches shall be suitably reinforced to prevent damage.
- (D) No storm water, surface water or ground water shall be discharged into sanitary sewers.
- (E) If slope and volume are such that velocities above twelve feet per second are realized at average flow, special provisions shall be made for anchoring the pipe and providing against erosion and shock.
- (F) All sanitary sewer design shall be by gravity flow, except by special arrangement with the City.
- (G) A manhole shall be provided at each grade, alignment or size change. No distances in excess of 400 feet shall be permitted between manholes in lines of fifteen (15) inches or less.
- (H) Insofar as practically possible, lines shall be located in public roads in preference to easements, and lift stations shall be avoided.
- (I) All manholes shall be forty-eight (48) inch minimum.

TECHNICAL SPECIFICATIONS

1-1 DESIGN STANDARDS (Cont'd.)

- (J) All design shall be in accordance with Department of Ecology "Criteria for Sewer Works Design", latest revision.

1-2 DRAWING STANDARDS

(A) PLAN DRAWING

1. All sewer plans for developer extensions shall be on 24" X 36" plan profile linen or mylar film originals.

Vertical Scale - 1 inch = 5 Feet

Horizontal Scale - 1 inch = 50 Feet Min.

Sepia, paper, or photographic type originals shall not be used.

When more than one sheet is required to cover all of the construction area an overall drawing will be required.

2. Datum shall be NGVD. The elevation bench marks used for control shall be shown on the plans.
3. Plans must be signed by a professional engineer.
4. Plan views shall be laid out to afford maximum understanding. Sheets shall be condensed to as few as possible and still allow sufficient room for notes. North shall be shown generally up or to the left on the plans, and in no case will north be shown in opposing directions on the same or connecting sheets. Plans shall be separate from plat, road, water, storm drainage, or other utility plans, unless such approval is given by the City prior to the start of design.
5. Plan and profile of each sewer from manhole to manhole shall be shown on the same sheet. Profiles shall be extended directly above or below the plan view when possible.
6. Streets and easements shall be clearly labeled in both plan and profile on each street or easement.

TECHNICAL SPECIFICATIONS

1-2 DRAWING STANDARDS (Cont'd.)

7. Sewer line locations shall be clearly dimensioned from street centerlines or from property lines in the plan views. Sewer location by stationing will not be used.
8. Profiles shall include size, length, slope, and pipe classification for each run of pipe from manhole to manhole.
9. Manholes shall be clearly labeled in plan and profile. All invert elevations for each manhole shall be shown wherever that manhole is shown in the profile.
10. All necessary easements shall be shown on the plans.
11. All improvements on property owned by others shall be shown on the plans.
12. All existing or proposed utilities shall be shown on the plans as simply as possible. Extraneous details for other utilities shall be avoided.
13. All crossings or conflicts with other utilities shall be shown.

(B) THE OVERALL DRAWING (Scale 1" = 100 feet)

The overall drawing shall show the relationship of the new sewer main to all existing and proposed underground utilities, streets and curbs.

(C) SHOP DRAWINGS

Shall be on 24" X 36" reproducible sheet and may be at any scale which will adequately show the detail necessary for fabrication or construction of the piping, equipment, machinery, etc.

(D) AS-BUILT DRAWING

Shall meet all the requirements of the plan drawing.

TECHNICAL SPECIFICATIONS

PART TWO - MATERIALS

2-1 GENERAL

All materials incorporated into the work shall conform to the provisions of this part and be new and undamaged. Where possible, the same manufacturer of each item shall be used throughout the job. All references to specifications shall be of the latest edition.

2-2 GUARANTEE BY MANUFACTURER

If requested by the City, a written guarantee made by the manufacturer of any materials to be incorporated into the work shall be furnished, guaranteeing to the City that such materials shall conform to these Specifications and the Specifications otherwise applying to the work.

2-3 SEWER PIPE AND APPURTENANCES, NONPRESSURE

Gravity sewer pipe shall be either concrete, (nonreinforced or reinforced), or PVC pipe as specified herein. The Contractor shall provide two copies of the pipe manufacturer's technical literature and tables of dimensional tolerances to the City. Any pipe found to have dimensional tolerances in excess of those prescribed or having defects which prevent adequate joint seal or any other damage shall be rejected. If requested by the City, not less than three nor more than five pipe lengths of pipe for each size, selected from stock by the City, shall be tested as specified for maximum dimensional tolerance of the respective pipe.

(A) CONCRETE PIPE

All concrete pipe ten (10) inches and smaller shall be nonreinforced and shall conform to ASTM Designation C14 Class 2.

All concrete pipe thirteen (13) inches and larger shall be reinforced and shall conform to ASTM Designation C76 and shall be of the class noted in the plans.

All concrete pipe shall conform to Section 7-17 of the Standard Specifications.

All pipe joints shall be rubber gasketed and no mortar joints shall be used except for sealing pipes into manholes. Rubber gaskets for concrete pipe shall conform to ASTM C443.

TECHNICAL SPECIFICATIONS

2-3 SEWER PIPE AND APPURTENANCES, NONPRESSURE (Cont'd.)

(B) PVC PIPE

PVC pipe shall conform to ASTM D3034 and shall be defined as flexible conduit. Joints shall conform to ASTM D3212 using a restrained rubber gasket conforming to ASTM F477. Fittings shall be injection molded tees or factory solvent welded saddle tees. Saddles fastened to pipe with external bands are not acceptable on any new system.

2-4 SEWER PIPE AND APPURTENANCES, PRESSURE

- (A) Ductile iron conforming to AWWA Class 52 with a manufacturer's thin cement lining conforming to AWWA C104 except as to thickness and with the type of joint, class, thickness, designation and markings as specified in the plans and specifications.
- (B) Cast iron fittings and valves shall be a class equal to or greater than the class of the pressure sewer pipe. Fittings shall be cement lined and shall conform to the above specification for ductile iron pipe. Valves shall be M&H Style 820X centric or equal. Special valves and fittings shall be as specified on the plans.

2-5 MANHOLES

- (A) Cast iron frames and covers shall conform to the Olympic Foundry Company No. 5943-WS or equivalent marked "SEWER" in two (2) inch raised letters. Castings shall conform to the requirements of ASTM A48, Class 30 and shall be free of porosity, shrink cavities, cold shuts, or cracks or any surface defects which would impair service ability. Repair or defects by welding, or by the use of "smooth-on" or similar material will not be permitted.

Manhole rings and covers shall be machine finished or ground on seating surfaces so as to assure nonrockin fit in any position, and interchangeability. At the request of the City, there shall be made available at the foundry standard rings and standard covers for use by inspectors in testing fit and seating.

TECHNICAL SPECIFICATIONS

2-5 MANHOLES (Cont'd.)

Manholes located outside of public rights-of-way shall be equipped with a locking device. All movable parts shall be made of noncorrosive metals otherwise arranged to avoid possible binding.

At the request of the City, there shall be made available at the foundry a testing device suitable for proving the capacity of the assembly to resist an uplift pressure on the lid equal to a 20-foot head. The locking frame and cover shall be Metro standard frame and cover with 3 CAM type locking device as made by Olympic Foundry Company or equal.

All manhole frames and covers shall be identified by the name or symbol of the manufacturer. This identification shall be in a plainly visible location when the frame and cover is installed. In addition to the manufacturer's identification, the material shall be identified by the following "NOD" or "DUC" for nodular or ductile iron respectively. The manufacturer's identification and the material identification shall be adjacent to each other and shall be minimum 1/2 inch letters recessed to be flush with the adjacent surfaces.

(B) PRECAST MANHOLE COMPONENTS

Precast manhole components shall conform to ASTM C478 except as modified herein.

Base section openings to receive pipe shall be circular, tapered inward, and held to the minimum size practical to accommodate the pipe to be inserted to effectively seal the joint. Connections shall conform to APWA 63-3.12.

Precast manhole elements shall be provided with steps and/or ladders such that the completed manhole will contain a continuous vertical ladder with rungs equally spaced at twelve (12) inches plus or minus 3/4 inch. The lowest run shall be not more than sixteen (16) inches above the shelf, and the uppermost run shall be not more than eighteen (18) inches below the street surface.

Joints between precast manhole elements shall be rubber gasketed in a manner similar to pipe joints conforming to ASTM C443. Shop drawings of the joint design shall be submitted to the City for approval, prior to manufacture or purchase. Completed joints shall show no visible leakage and shall conform to the dimensional requirements of ASTM C478.

TECHNICAL SPECIFICATIONS

2-5 MANHOLES (Cont'd.)

(B) PRECAST MANHOLE COMPONENTS (Cont'd.)

Drop manholes, wherever shown on the plans, shall conform in all respects to the requirements for standard manholes as specified above. Pipe and fitting materials shall be ductile iron and shall conform to the specifications for ductile iron pressure sewer main.

Standard precast cones shall provide an eccentric reduction from forty-eight (48) inches to twenty-four (24) inches and shall not be less than seventeen (17) inches in height.

Precast cones shall conform to Section 63-2.09C of the Standard Specifications. Precast flat slab covers shall conform to Section 63-2.09D of the Standard Specifications.

(C) GALVANIZED DEFORMED BAR STEPS

Galvanized deformed bar steps shall be one (1) inch diameter deformed bar conforming to ASTM A615, Grade 40 or Grade 60, hot bent and galvanized after bending. For bending, the temperature shall be at least 1,600 degrees F. Galvanizing shall conform to ASTM A123. Step dimensions and pattern shall conform to the Standard Specifications.

(D) LADDERS

Precast manhole base sections more than three feet in height shall be provided with a ladder as detailed in the Standard Specifications. Ladders shall be made of steel galvanized after fabrication.

2-6 IMPORTED BACKFILL MATERIAL

Imported backfill material shall be free from wood, bark, roots or other extraneous material and shall meet the following requirements:

Passing 2-1/2" Square Opening	100%
Passing 1/4" Sieve	25% Min.
Passing No. 200 Sieve	10% Max.

TECHNICAL SPECIFICATIONS

2-7 IMPORTED BACKFILL MATERIAL

Over-excavated material shall be replaced with trench foundation material conforming to the following specification. It shall be coarse graded gravel or crushed rock passing a three (3) inch mesh. Bank run passed through a three (3) inch screen may be used provided that it is, in the opinion of the engineer, properly graded and otherwise suitable.

2-8 BEDDING MATERIAL

- (A) Bedding material for flexible conduits shall be a clean sand/gravel mixture free from organic matter and conforming to the following gradation when tested in accordance with ASTM D422.

<u>U.S. STANDARD SIEVE SIZE</u>	<u>PERCENT FINER, BY WEIGHT</u>
3/4" Square Opening	100%
3/8" Square Opening	70 - 100%
No. 4 Sieve	55 - 100%
No. 10 Sieve	35 - 95%
No. 20 Sieve	20 - 80%
No. 40 Sieve	10 - 55%
No. 100 Sieve	0 - 10%
No. 200 Sieve	0 - 3%

- (B) Bedding Material for rigid pipe shall be well graded, clean granular gravel material commonly known as pea gravel. Material slightly smaller than pea gravel may be used. Bedding material shall meet the following requirements:

<u>U.S. STANDARD SIEVE SIZE</u>	<u>PERCENT PASSING BY WEIGHT</u>
3/8" Square Opening	100%
No. 8 Sieve	0 - 5%

2-9 ASPHALTIC CONCRETE

Asphalt concrete pavement shall conform to the technical requirements of the State of Washington Standard Specifications for road and bridge construction latest edition, Class B.

TECHNICAL SPECIFICATIONS

2-10 TOP COURSE AND KEYSTONE MATERIAL

For use in the restoration of excavated areas, top course and keystone material shall be crushed gravel, free from wood, roots, bark and other extraneous material and shall conform to the following requirements:

<u>MATERIAL PASSING</u>	<u>PERCENT BY WEIGHT</u>
5/8" Square Opening	100%
1/4" Square Opening	50 - 65%
U.S. No. 40 Sieve	5 - 23%
U.S. No. 200 Sieve	10% - Max

2.11 BASE COURSE MATERIAL

Base course material shall conform to the following requirements:

<u>MATERIAL PASSING</u>	<u>PERCENT BY WEIGHT</u>
1-1/4" Square Opening	100%
5/8" Square Opening	50 - 80%
1/4" Square Opening	30 - 50%
U.S. No. 40 Sieve	3 - 18%
U.S. No. 200 Sieve	7.5% Max

2.12 CONCRETE BEDDING

Bedding concrete shall be mixed from materials acceptable to the engineer and shall have a 30-day compressive strength or not less than 1,500 PSI. The mix shall contain four sacks of cement per cubic yard and shall be of such consistency that the slump is between one (1) inch and five (5) inches.

TECHNICAL SPECIFICATIONS

PART THREE - CONSTRUCTION

3-1 GENERAL

Except as otherwise noted herein, all work shall be done in accordance with the plans and specifications approved by the City and as recommended in applicable American Water Works Association (AWWA) specifications and/or the Washington State Chapter, American Public Works Association (APWA), and/or 10 States Standard, and according to the recommendations of the manufacturer of the material or equipment used.

3-2 TRENCH EXCAVATION

Trenches shall be excavated to the line and grade approved by the City. Unless otherwise specified, trench sides shall be excavated vertically. Trench widths shall be adequate for proper working space and placement of bedding material under and around the pipe. The trench width from the bottom of the trench to the crown of the pipe shall not exceed thirty (30) inches for twelve (12) inch diameter and smaller pipe, or 1.5 times the inside diameter of twelve (12) inch or larger pipe, plus sixteen (16) inches. If these widths are exceeded, a stronger grade of pipe and/or a higher classification and amount of bedding material shall be furnished, as directed by the City.

Excavation for manholes or other structures shall be sufficient to provide a minimum of eighteen (18) inches between their outer surfaces and the sides of the excavation.

All material excavated from trenches, and piled adjacent to the trench, shall be placed and maintained so that the top of the material is at least two (2) feet from the edge of the trench. Excavated material shall be located so that free access is provided to all fire hydrants, water valves and meters and other utilities and clearance shall be left to enable free flow of storm water and all gutters, conduits and natural water courses.

3-3 BORING

The Contractor shall bore in lieu of trenching in areas specifically directed to do so by the City. In such a case, the City will provide specific, detailed specifications for the boring operations.

TECHNICAL SPECIFICATIONS

3-4 ROADWAY AND RAILWAY CROSSINGS

Approved methods will be used for roadway or railway crossings which provides for satisfactory results and is acceptable to both the City and the Governmental or private agency having control of the road or track, provided that the road or track shall be restored to its original condition after the crossing is completed.

Where boring or jacking is elected or required for crossings, steel, cast iron or concrete pipe casing shall be placed and the sewer pipe laid within the casing.

3-5 TRENCH FOUNDATION

If, in the judgement of the City, the native trench bottoms will provide a firm base for the subsequent placement of bedding, pipe and backfill, such native trench bottom may be used if the bottom is leveled and smoothed so that the entire length of pipe will rest on a well compacted base.

Trench bottoms shall be over-excavated as necessary to remove all unstable soil and eliminate "boiling" or "quick" conditions to such a depth as to provide a firm base. Over-excavated materials shall be replaced with trench foundation material as specified in Section 2-7. Foundation material shall be placed when ordered by City.

3-6 BEDDING MATERIAL PLACEMENT

All pipe shall be placed in bedding material of the type specified in Section 2.8. The bedding shall be placed from a minimum of four (4) inches below the pipe barrel to four (4) inches over the top of the pipe as shown on the standard details herein. Bedding material shall be worked by hand under, around and over the pipe to the depths required for the full width of the trench.

- (A) Bedding shall be placed in no more than one-foot lifts. The first lift to provide at least four (4) inches thickness under any portion of the pipe shall be placed before the pipe is installed and shall be spread smoothly so that the pipe is uniformly supported along the barrel. Subsequent lifts of not more than six (6) inches thickness shall be placed to four (4) inches over the crown on the pipe and individually compacted to 95% of maximum density.

TECHNICAL SPECIFICATIONS

3-6 BEDDING MATERIAL PLACEMENT (Cont'd.)

- (B) In solid rock excavation, all ledge rock, boulders or stones shall be removed to provide a minimum clearance of eight (8) inches under the pipe. All material thus removed shall be replaced with bedding material.

3-7 GRADE LINES

The Contractor shall maintain the correct grades between manholes. All bench marks, reference points and stakes shall be preserved and, in case of destruction to any of them, the resulting expense of restoration shall be borne by the Developer.

Construction staking shall consist of grade stakes at ten (10) foot offsets at each manhole, intermediate stakes shall be offset ten (10) feet and located at fifty (50) foot stations between manholes. Laser beam equipment for grade and alignment control shall be required.

3-8 PIPE LAYING

Each pipe shall be laid with bells upgrade and the invert of the pipe to the alignment and grade shown on the plans. Concentric joints shall be closed and a smooth invert provided. Open ends of pipe or fittings shall be temporarily capped or plugged when laying is not in progress.

No water shall be allowed in the trench during pipe laying, joint making and as long thereafter as is necessary in the judgement of the City for the type of joint being used.

Adjustment to the line and grade shall be done by scraping away or filling in and tamping bedding material under the body of the pipe. No wedging or blocking of the pipe for adjustment to line and grade may be done.

The pipe shall be lowered into the trench by means of ropes, tripod, crane or any other suitable means, shall not be dropped or handled roughly, and shall be checked for cracks and defects prior to installation. Any cracked or defective pipe shall not be installed.

Tees, wyes and standing services shall be installed as shown in the standard details herein and at such locations as are shown on the plans or as otherwise directed by the City, and shall not be covered until the City has completed inspection and exact location has been recorded on the as-built drawings.

TECHNICAL SPECIFICATIONS

3-8 PIPE LAYING (Cont'd.)

Variance from established line and grade shall not be greater than $\frac{1}{32}$ inch per inch of pipe diameter, but shall not exceed $\frac{1}{2}$ inch or result in a level or reverse sloping invert. Variation in the invert elevation between adjoining ends of pipe due to nonconcentricity of joining surface and pipe interior surfaces shall not exceed $\frac{1}{64}$ inch per inch of pipe diameter or $\frac{1}{2}$ inch in any event.

3-9 PIPE JOINTS

No joints shall be covered until examined and approved by the City. Only pipe layers experienced with the type of gasket being used in the work shall be allowed to lay pipe. On request of the City proof of such experience shall be furnished before laying may begin.

Joint material shall be installed according to the manufacturer's recommendations. After the gasket has been affixed, pipe shall be handled to avoid bumping the gasket, knocking out of position or loading it with dirt or other foreign material. Any gasket so disturbed shall be removed, replaced, cleaned and relubricated before the joint is made.

The pipe shall be properly aligned before the joint is forced home. During insertion of the tongue or spigot, the pipe shall be partially supported by hand, sling or crane as required to minimize lateral pressure on the gasket and to maintain concentricity until the gasket is properly positioned. Pipe deflection and straightening shall be avoided once the joint is home, to prevent creep of the joint.

Sufficient pressure shall be applied in making the joint to assure that the joint is home, as defined in the pipe manufacturer's standard instructions for installation. Sufficient restraint shall be applied to the line to assure the joints, once home, are held so by tamping fill under and alongside the pipe or by other appropriate means. At the end of the day's work, the last pipe laid shall be blocked in such a manner as may be required to prevent creep during downtime.

3-10 MANHOLES

Precast manhole base sections shall be placed on a well-compacted bedding course of bedding material. The depth of the bedding shall not be less than four (4) inches thick, extending a minimum of eighteen (18) inches beyond the outside perimeter of the base section. The balance of any remaining excavated area shall be

TECHNICAL SPECIFICATIONS

3-10 MANHOLES (Cont'd.)

filled with imported backfill material and well tamped to the level of the top of the bedding before the manhole is set in place. The bedding shall be well tamped and made smooth and level to assure uniform contact and support of the precast elements.

All lift holes and the inside and outside face of rubber gasketed joints between precast sections shall be thoroughly wetted and then filled with mortar, smoothed and all joints pointed both inside and out.

Precast sections shall be placed and aligned to provide vertical sides and vertical alignment of ladder rungs. Eccentric cone shall be positioned to allow vertical access to the ladder. The completed manhole shall be rigid, true to dimension and watertight.

Manholes set in paved streets or other paved areas shall be set to finished grade of the paving and when required, the manhole frame shall be tilted to conform to the grade on the paved surface.

Manholes not set in paved areas shall be set at a finished grade six (6) inches higher than the surrounding terrain to prevent surface water infiltration into the system, unless plans specify otherwise.

Manhole channels shall be made to conform to the sewer grade and shall be brought together with well-rounded junctions. Channel sides shall be carried up vertically to the crown elevation of the various pipes. The concrete shelf shall be smoothly finished with slopes to drain.

The openings through which pipes come into the manhole shall be completely and firmly rammed full of mortar to insure watertightness.

Where PVC conduits are used a watertight joint shall be provided where the pipe passes through the manhole wall in accordance with PVC pipe manufacturer's specifications.

3-11 BACKFILLING

No backfilling shall be performed until after the City has inspected the installation of the pipe and bedding and approved backfilling.

Backfilling shall be performed carefully so that no damage is done to the pipe or to its alignment. The City may direct the contractor to use special backfill techniques when it deems necessary.

TECHNICAL SPECIFICATIONS

3-11 BACKFILLING (Cont'd.)

In areas such as existing paving, or in areas to be paved, where the City determines that minor settlement would be detrimental and the native excavated material is not suitable for compaction as backfill, the trench shall be backfilled with imported backfill material.

3-12 COMPACTION OF BACKFILL

In all events, compaction of backfill and backfill procedures in public rights-of-way shall at the minimum conform to the requirements of the governmental agency having jurisdiction thereof.

Backfilling shall be compacted to ninety-five percent (95%) of maximum theoretical density in all areas where paving will be placed over the backfill and to eighty-five percent (85%) of maximum theoretical density in all other areas. Measurement of compaction density shall be by the modified AASHO method.

Compaction of backfill may be done in such manner as will accomplish the degree of compaction required herein.

Prior to compaction, the method of compaction shall be submitted to the City for approval and the method of compaction finally approved by the City shall be employed by the Contractor using good practice. If, in the judgement of the City, the excavated material cannot be compacted as specified, such material shall be replaced with imported backfill material.

When density tests are required by the City, the City will require that the services of an independent testing laboratory or county testing laboratory be employed to perform in-place density tests to ascertain whether the specified density can be or has been obtained, and the costs thereof shall be borne by the Developer.

Regardless of the approval of the City as to manner of compaction, testing, acceptance by the City or otherwise, the Developer shall repair any settlement of trenches and excavations that may occur within one year after completion and acceptance of the work by the City.

3-13 CLEANING AND FLUSHING

Prior to pipe testing, all pipes shall be cleaned as provided in this section. An inflatable ball furnished by the Contractor of a size that will inflate to fit snugly into the pipe shall be placed in the last manhole on the pipe to be cleaned. The ball may be used with a tag line or a rope may be fastened to the ball to locate and control its position at all times. Water shall be

TECHNICAL SPECIFICATIONS

3-13 CLEANING AND FLUSHING (Cont'd.)

introduced behind the ball and the ball shall pass through the pipe with only the force of the water impelling it. All debris flushed ahead of the ball shall be removed at the first manhole where presence of the debris is noted. In event that cemented or wedged debris or damaged pipe shall stop the ball, the obstruction shall be removed.

No flushing water or debris shall be permitted to enter the existing sewer system and flushing water shall be pumped from the lines being cleaned and disposed of at a suitable location for draining of flushing water.

3-14 TESTING OF NONPRESSURE SEWER PIPE - DEFLECTION TESTING FOR FLEXIBLE SEWER PIPE

All nonpressure sewer pipe shall be air tested. The procedures set forth in this section shall be employed in conducting the testing. All facilities and personnel for conducting the testing under the observation of the City shall be furnished by the Developer. All equipment and personnel to conduct the test shall be subject to the approval of the City. Although air testing may be performed for the convenience of the Contractor prior to backfilling, no pipe shall be accepted until air tests have been performed after backfilling and compacting.

All wyes, tees and end of side sewer stubs shall be plugged with flexible joint caps or an alternate acceptable to the City and securely fastened to withstand the internal test pressure. Such plugs or caps shall be readily removable and their removal shall provide a socket suitable for making a flexible-jointed lateral connection or extension. Immediately following pipe cleaning, the pipe installed shall be tested with low pressure air as set forth in APWA Section 62-3.100.

All sanitary sewers constructed of flexible pipe shall be deflection tested not less than 30 days after the trench backfill and compaction has been completed. The test shall be conducted by pulling a solid pointed mandrel with a diameter equal to 95% of the pipe diameter through the completed pipeline. Testing shall be conducted on a manhole to manhole basis and shall be done after the line has been completely flushed out with water. The Contractor will be required, at his expense, to locate and repair any sections failing to pass the test and to retest the section.

The City may require an infiltration test if it appears that there is excessive infiltration after air tests are completed. The City shall also be the sole judge of whether or not this test is required. The maximum allowable limit for infiltration shall be four-tenths (0.4) gallons per hour per inch of internal diameter per 100 feet of length, with no allowance for external hydrostatic head. Excessive infiltration shall be cause for rejection.

TECHNICAL SPECIFICATIONS

3-14 TESTING OF NONPRESSURE SEWER PIPE - DEFLECTION TESTING FOR FLEXIBLE SEWER PIPE (Cont'd.)

The City shall require the sewer to be inspected by the use of a television camera prior to final acceptance. The costs of making the initial inspection shall be borne by the Developer. The Contractor shall bear all costs incurred in correction and deficiencies found during television inspection they may be required by the City to verify the correction of said deficiency.

3-15 TESTING OF PRESSURE SEWER PIPE

All pressure sewer pipe shall be subjected to the same hydrostatic pressure test as City water mains. All facilities and personnel for conducting the testing under the observation of the City shall be furnished by the Developer and shall be subject to the approval of the City. Insofar as practical, testing shall be made with pipe joints, fittings and valves exposed for inspection.

3-16 SIX INCH (6") SIDE SEWER FROM MAIN TO PROPERTY LINE

The strength class of side sewer pipe shall be the same as the sewer pipe to which it connects and these specifications shall be applicable to side sewer work.

The slope of side sewers shall not exceed two (2) foot vertical to one (1) foot horizontal nor be less than two percent (2%). When change in slope between connecting pipes exceeds two (2) inches per foot, standard 1/8 bends shall be used. All side sewers shall be plugged and plugs blocked.

The end of all side sewers at the property lines shall be marked with a vertical 2" X 4" board, the bottom of which shall be located at the invert of the elevation of the side sewer and top of which shall be painted white and extend three (3) feet above the ground with the depth of the sewer painted thereon.

3-17 CONNECTION TO THE EXISTING SYSTEM

No connections shall be made to the existing sewer system without the presence of the City. Written application for connection shall be made to the City, and the connection shall be made at a time agreed upon with the City.

Connections to existing manholes shall be made as follows: If the manhole is "live", the manhole channel shall be tightly covered to prevent debris from entering the sewer line prior to breaking into the manhole wall. Immediately after the connection is made, the new pipe shall be plugged and blocked in such a manner that no water shall enter into the existing manhole. The plug shall not

TECHNICAL SPECIFICATIONS

3-17 CONNECTION TO THE EXISTING SYSTEM (Cont'd.)

be removed without permission of the City. If the existing manhole is not "live", a plug shall be installed in the downstream or discharge pipe of the existing manhole in addition to the above. Where new connections to existing manholes require an outside drop, two plugs for each drop shall be installed and blocked.

Connections to existing sewer pipe shall be made as follows: A new manhole shall be placed over the existing line. The manhole shall be precast, forty-eight inch (48") diameter except that the base slab shall be cast in place. The new connection shall be plugged and blocked and the existing sewer pipe shall not be opened without the permission of the City.

Connections of side sewers to an existing sewer line shall be made as follows: The connection shall be made with a romac sewer saddle tee or equal. The existing sewer pipe shall be cut or drilled to give a smooth symmetrical opening of the proper size. Each connection shall be bedded with a four inch (4") thick concrete pad poured in place to the lower quadrant of the pipe barrel. Unsuitable foundation material shall be over-excavated and replaced with bedding material.

16:15

SANITARY SEWER GENERAL NOTES

These General Notes, whether attached or not to the approved plans, shall become a part of the approval.

1. All work and materials shall be in accordance with the "Standard Specifications for Road, Bridge, and Municipal Construction," Washington State Department of Transportation and American Public Works Association, Washington State Chapter, 1988 Edition. Together with the latest edition of the City of Issaquah Developer Extension Agreement.
2. An approved copy of these plans must be on site whenever construction is in progress.
3. It shall be the sole responsibility of the Contractor to obtain street use and any other related permits prior to any construction activity in City right-of-way.
4. Prior to any construction activity, the City of Issaquah Engineering Department (391-1004) must be contacted for a preconstruction meeting.
5. All locations of existing utilities shown hereon have been established by field survey or obtained from available records and should therefore be considered approximate only and not necessarily complete. It is the sole responsibility of the Contractor to independently verify the accuracy of all utility locations shown, and to further discover and avoid any other utilities not shown hereon which may be affected by the implementation of this plan. The Contractor shall contact the Utilities Underground Location Service (1-800-424-5555) prior to construction. The owner or his representative shall be immediately contacted if a utility conflict exists.
6. The sanitary sewer system shall be constructed according to the approved plans which are on file in the City of Issaquah Engineering Department. Any deviation from the approved plans will require written approval from the proper agency.
7. All new sanitary sewer lines shall be sealed off at the existing trunk connection point until all upstream construction is completed, cleaned, tested, lamped, and accepted by the City of Issaquah. All construction debris and water shall be removed from pipe prior to opening seal.

SANITARY SEWER GENERAL NOTES (Cont'd.)

8. Manholes and Lids:

- A. All manholes shall be Issaquah Standard Plan No. S-1 (48" I.D.) type, with eccentric cones.
- B. Outside drop connections shall be constructed in conformance to Issaquah Standard Plan No. S-2.
- C. All manholes shall have a minimum drop of 0.10 feet between inverts.
- D. It shall be the responsibility of the Contractor to adjust all manhole tops to match final asphalt elevations and ground elevations in landscaped areas.

9. Sewer Pipe, Bedding and Trench Compaction:

- A. All sewer pipe shall be one of the following as designated:
 - 1) PVC, conforming with ASTM D-3212.
 - 2) Ductile Iron, Class 50, conforming to AWWA C-104.
 - 3) Pipe may be any of the above provided:
 - a) Pipe joints must be of the same materials, and
 - b) Where a pipe material is specifically shown on the plan, that material must be used.
- B. Pipe bedding shall be APWA Type "F" with material conforming to Section 9-30.7A (2).
- C. Trench backfill shall conform to the Developer Extension Agreement Technical Specifications (3-2).

10. Side Sewer Laterals:

- A. Side sewers shall be 6" minimum diameter at 2.0% minimum slope.
- B. Side sewers shall be tested for leakage at the same time the main line sewer is tested. If not tested together, provide test tees at sewer main connections.
- C. Buildings with greater than 10 units shall be serviced by one of the following methods:
 - 1) Double 6" diameter services connected to trunk by standard tees or into manholes.

SANITARY SEWER GENERAL NOTES (Cont'd.)

- 2) Single 8" diameter service with cleanout, connected to trunk into manholes only. (Alternate connection methods are depicted on plans.)
- D. All lateral connections to sewer mains shall be made with a wye or sweeping tee.
11. Construction of dewatering (groundwater) system shall be in accordance with the APWA Standard Specifications, Section 61-3.02, 1981 Edition.
12. Whenever sewers must cross under water main, the sewer shall be laid at such an elevation that the top of the sewer line is at least 36 inches below the bottom of the water main.
13. Buildings shall not be permitted within 10 feet, or carports within 5 feet, of the spring line of any sanitary sewer pipe.
14. Prior to occupancy, the Developer shall grant 15-foot wide sanitary sewer easements to the City of Issaquah.
15. Cleanouts shall be provided at the right-of-way line for laterals entering the public right-of-way.
16. Construction shall be limited to Monday through Friday. Hours of operation shall be from 7 AM to 6 PM, or as otherwise approved by the Public Works Department.

2/2/88;16:25

CITY OF ISSAQUAH

RECEIPT FOR CASH DEPOSIT - MAINTENANCE AGREEMENT

The City of Issaquah hereby acknowledges receipt from _____ the amount of \$_____, which shall be held by the City for the purpose of guaranteeing that the improvements to be made in connection with construction of the project known as _____, located at _____, shall remain free of defects in materials, workmanship and installation, and in the case of landscaping, shall survive for a period of ____ years from the date of written acceptance by the City. These improvements include, but are not limited to:

If, in the sole determination of the Public Works Director or a designee of same, hereafter "the Director," the above referenced improvements prove to be defective with respect to materials, workmanship, installation, or in the case of landscaping, shall fail to survive for the period referenced above, and, if after written notice of such defect or failure to rights to reimbursement of this cash bond shall be forfeited, all said cash shall remain the sole property of the City. Otherwise, at the time of satisfactory completion, as determined by the Director, said cash shall be returned to the entity or individual posting said cash.

Forfeiture of the cash deposit as herein provided shall be in addition to all other rights and remedies granted by law, equity or contract to the City to seek reimbursement of damages incurred or to enforce the provision of any such contract as referenced herein.

BILL OF SALE FOR _____

IN WITNESS WHEREOF, Vendor has caused its corporate name and seal to be affixed by its officers thereto lawfully authorized on the _____ day of _____, 19 ____.

CORPORATE NAME:

Type Name and Title of Officer

Type Name and Title of Officer

STATE OF WASHINGTON)

COUNTY OF KING)

On this _____ day of _____, 19 ____, personally appeared before me _____ and _____, to me known to be the _____ and _____, respectively, of the Corporation that executed the within and foregoing instrument as Vendor, and acknowledged said instrument to be the free and voluntary act and deed of said Corporation, for the uses and purposes therein mentioned, and on oath stated that they were authorized to execute said instrument in behalf of said Corporation and that the seal affixed is the corporate seal of said Corporation.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal the day and year first above written.

NOTARY PUBLIC in and for the
State of Washington, residing
in _____.

16:16



City of Issaquah

Post Office Box 1307

Issaquah, WA 98027-1307

SEWERLINE EASEMENT

(206) 391-1004

IN CONSIDERATION of benefits to accrue to the Grantors herein by reason of the construction and establishment of a sewerline the undersigned, and

hereby grant to the City of Issaquah, a municipal corporation, a permanent easement for the installation, operation, and maintenance of a sewerline over, across, through and below the following described property, and the further right to remove trees, bushes, undergrowth and other obstructions interfering with the location, construction and maintenance of said sewerline.

The easement and right-of-way hereby granted is located in the City of _____, Washington, and is more particularly described as follows:

The City agrees to restore to substantially the original condition such improvements as are disturbed during the construction, maintenance and repair of said sewerline provided, the Grantors, their heirs or assigns shall not construct any permanent structure over, upon or within the permanent easement.

DATED this ____ day of _____, 198__,

STATE OF WASHINGTON)
) ss.
COUNTY OF KING)

I certify that I know or have satisfactory evidence that _____ signed this instrument and acknowledged it to be his/her free and voluntary act for the uses and purposes mentioned in the instrument.

DATED this ____ day of _____, 198__.

NOTARY PUBLIC in and for the State of Washington, residing in County of _____. My appointment expires _____.

WDT:jt:lak
37:27 3/26/86



City of Issaquah

Post Office Box 1307
Issaquah, WA 98027-1307

(206) 391-1004

BILL OF SALE

FOR

(Describe; i.e. Water Works, etc.)

KNOW ALL MEN BY THESE PRESENTS: That the undersigned Corporation organized and existing under and by virtue of the laws of the State of Washington with principal place of business in _____, party of the first part, hereinafter designated "Vendor", and for valuable consideration, does hereby convey, bargain, sell and deliver unto the City of Issaquah, herein designated "Vendee", the following described personal property:

(Here described property sold.)

while personal property is located on the following described real property:

(Legal or identification of where real property is located.)

Vendor and their respective successors and assigns covenant and agree with the Vendee, its successors and assigns, that the Vendor is the owner of said property, and has full right and authority to sell the same, and hereby warrants and agrees to defend the sale thereof hereby made unto the Vendee, its successors and assigns, against any person claiming the same.

Vendor further guarantees that the said facilities are fit for purposes intended and that the same have been constructed in accordance with the conditions and standards of the City.

Vendor further covenants and agrees with the Vendee to replace, repair and correct any defects in work or materials in respect to the personal property subject to this Bill of Sale arising during a period of one (1) year from the date hereof, without cost to Vendee.

RECEIPT FOR CASH DEPOSIT - MAINTENANCE AGREEMENT

In the event either party shall initiate a lawsuit to enforce this Agreement, the prevailing party shall be entitled to its costs incurred, including attorney's fees.

DATED this _____ day of _____, 19____.

Signature of Depositor

Accepted by:

City of Issaquah

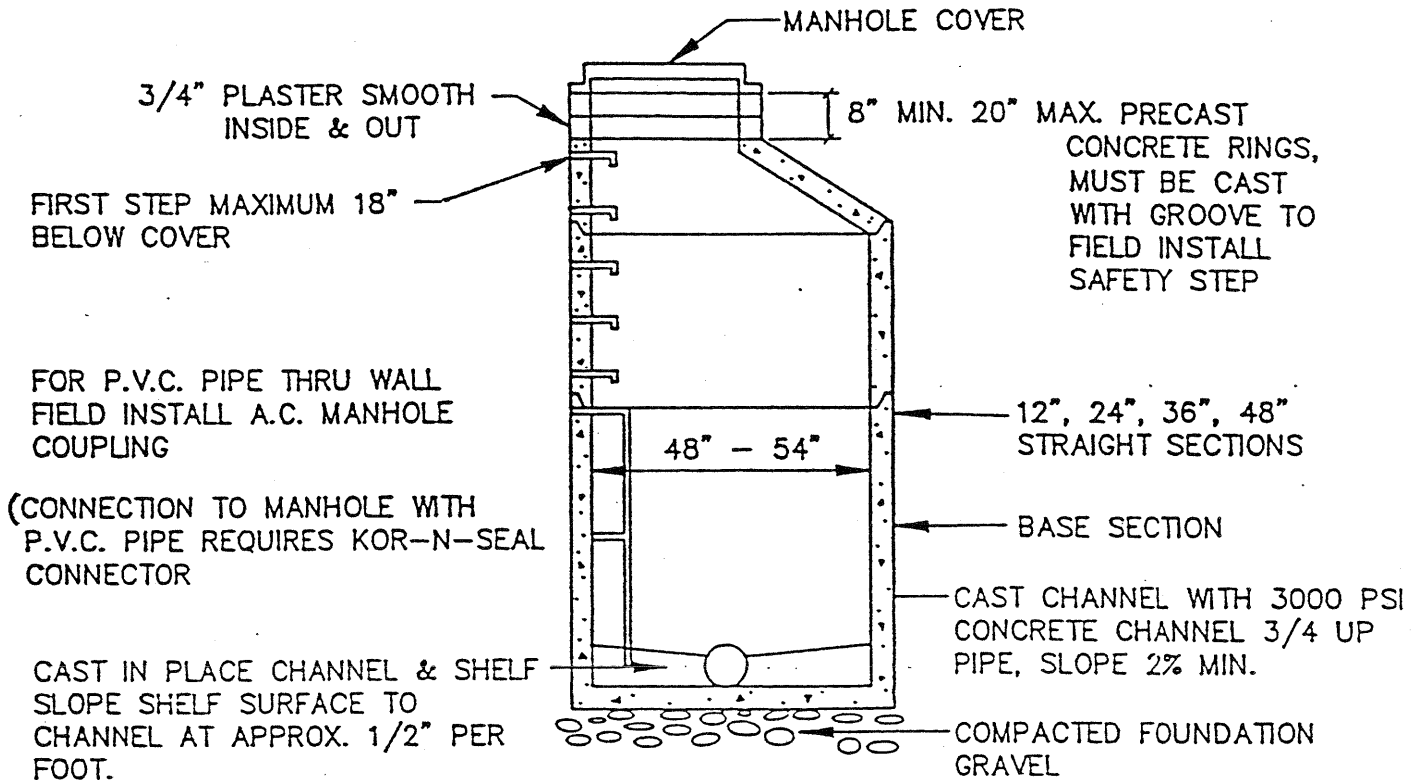
sp
19.16

STANDARD DETAILS

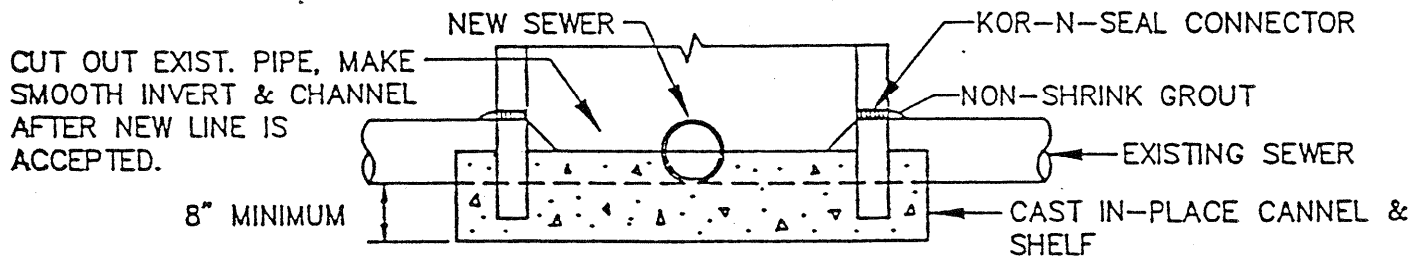
SEWER

STANDARD MANHOLE

(WHERE STANDARD MANHOLE CANNOT BE INSTALLED, THE SPECIAL MANHOLE SHALL BE DETAILED ON THE CONSTRUCTION PLANS)



MANHOLE BASE - NEW MANHOLE ON EXISTING SEWER

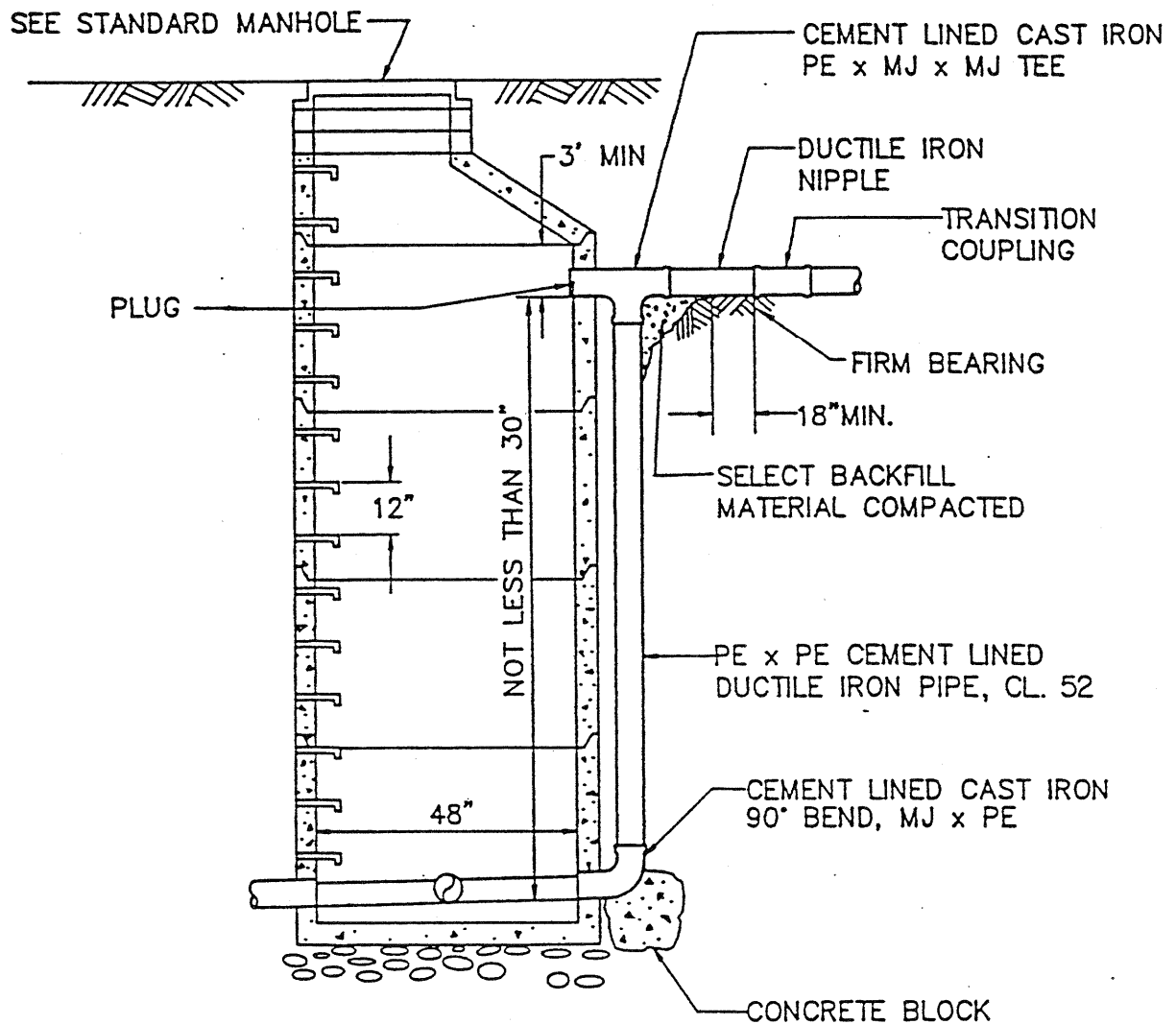


GENERAL NOTES (APPLY TO ALL MANHOLES):

1. PRECAST SECTIONS SHALL BE REINFORCED PER ASTM SPECS FOR CORRESPONDING SEWER PIPE.
2. GALVANIZED SAFETY STEPS, 1" MINIMUM. SEE DETAIL S-8
3. STEPS IN PRECAST BASE SECTION MAY BE CAST IN PLACE OR MOVABLE SAFETY LADDER GROUTED IN PLACE. SEE DETAIL S-8
4. ALL HOLES FOR PIPE SHALL BE BLOCKED OUT AT THE TIME OF CASTING THE SECTION.
5. ALL RUBBER GASKETED MANHOLES SHALL BE FURNISHED WITH RUBBER GASKET JOINT CONFORMING TO ASTM C443.
6. MANHOLES OVER 10' HIGH SHALL BE FURNISHED WITH MIN. 5" WALL
7. MINIMUM 3% SLOPE ACROSS MANHOLE CHANNEL
8. MANHOLE FRAME AND COVER EQUAL TO OLYMPIC FOUNDRY COMPANY #5943. PROVIDE 1-1" HOLE AND THE WORD "SEWER" CASE IN COVER.
9. MANHOLE DIAMETER IN ACCORDANCE WITH THE CITY OF ISSAQUAH STANDARD.
10. SEE STANDARD DETAIL NO. S-15 FOR 72" MANHOLE

JAN. 1988 NO SCALE

<p style="font-size: 1.2em; margin: 0;">City of Issaquah</p> <p style="margin: 0;">PUBLIC WORKS DEPARTMENT</p>	DRN.	<p style="font-size: 1.2em; margin: 0;">STANDARD MANHOLE / NEW MANHOLE ON EXISTING SEWER</p>	STD. DTL. NO.
	CHKD. <i>PA</i>		S-1
	APPR. <i>KZ</i>		
	DATE: 2-18-88		



JAN. 1988



City of Issaquah

PUBLIC WORKS DEPARTMENT

DRN.

CHKD.

APPR.

DATE

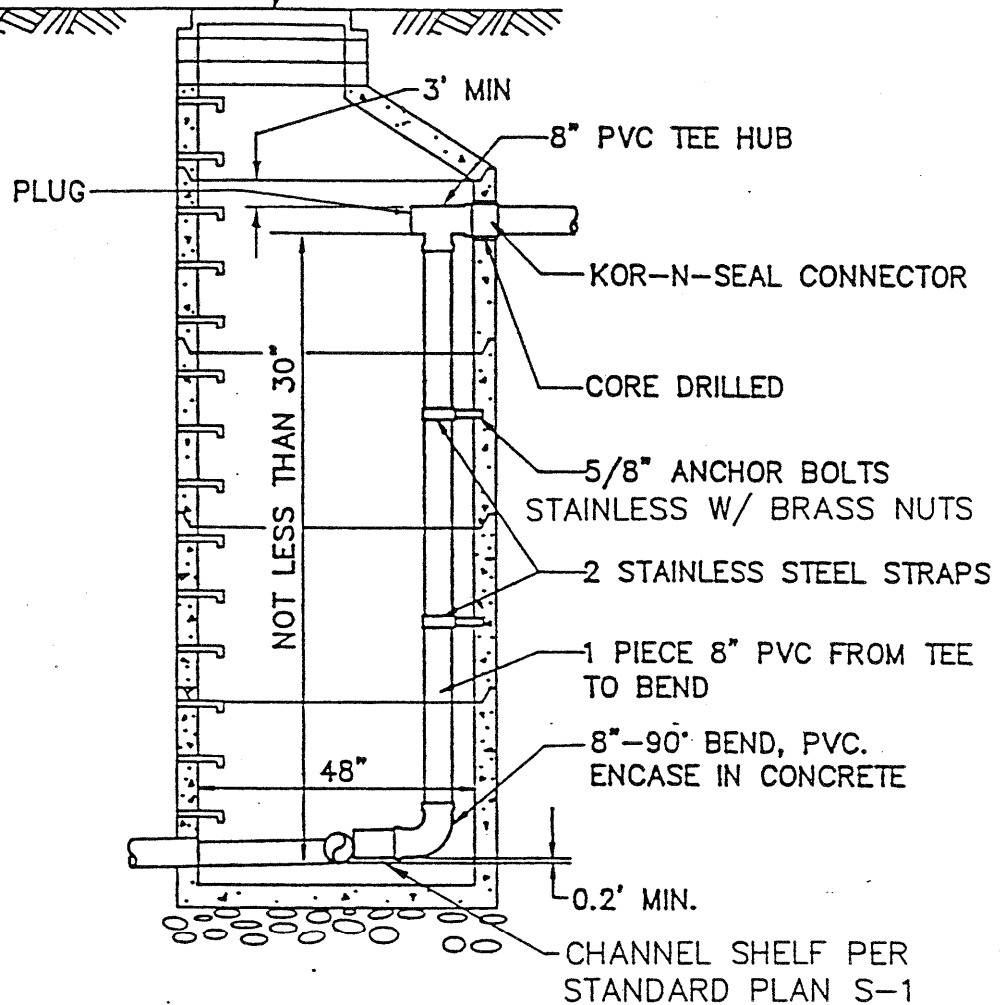
2-18-88

OUTSIDE DROP STRUCTURE

STD.DTL. NO.

S-2

SEE STANDARD MANHOLE



NOTES:

1. DROP TEE TO BE INSTALLED MINIMUM OF 3' BELOW CONE SECTION
2. INSIDE DROP MANHOLE SHALL BE INSTALLED ONLY WHERE APPROVED BY THE CITY
3. ONE INSIDE DROP PER MANHOLE.

JAN. 1988

NO SCALE



City of Issaquah

PUBLIC WORKS DEPARTMENT

DRN.

CHKD.

APPR.

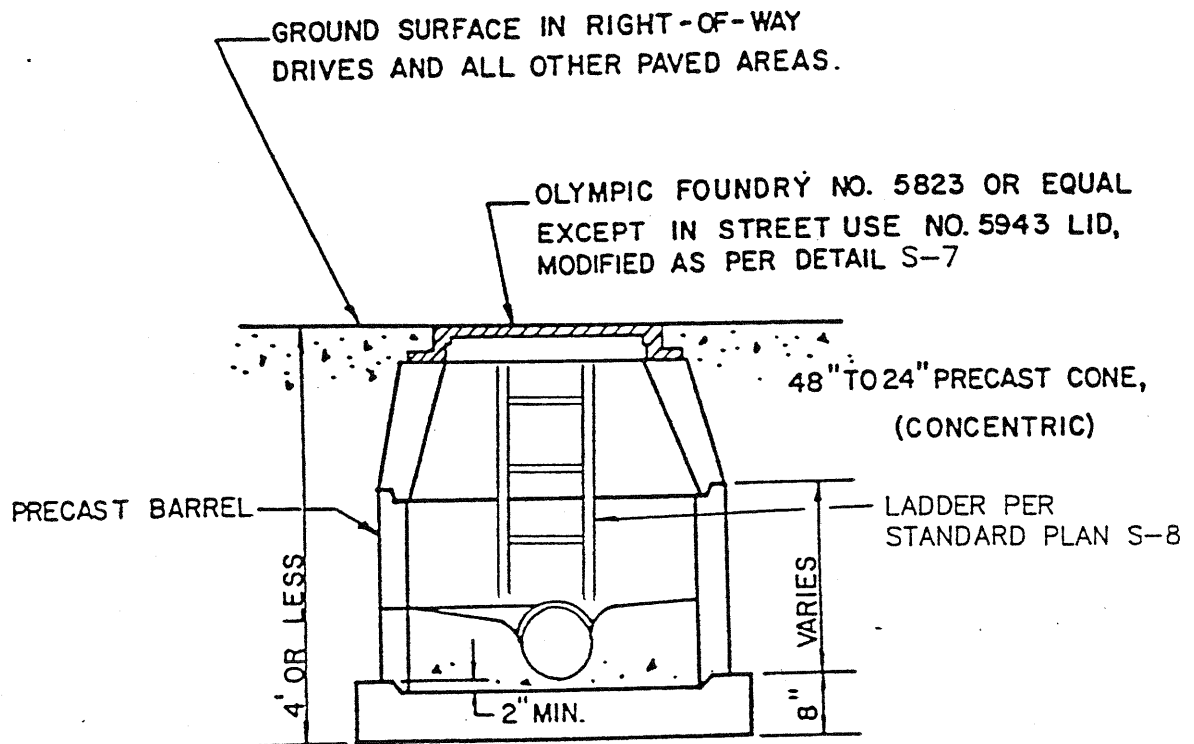
DATE

2-13-88

INSIDE DROP STRUCTURE

STD.DTL. NO.

S-3



JAN. 1988



City of Issaquah

PUBLIC WORKS DEPARTMENT

DRN.

CHKD.

APPR.

DATE

BW

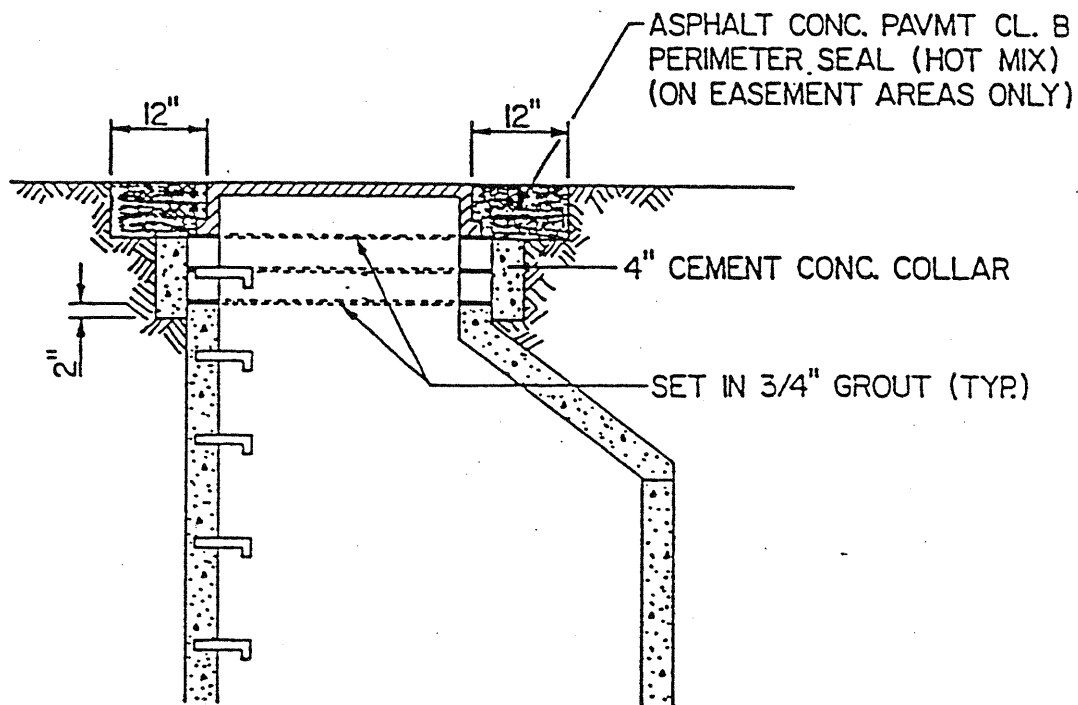
KZ

10-80

SPECIAL MANHOLES

STD.DTL. NO.

S-4




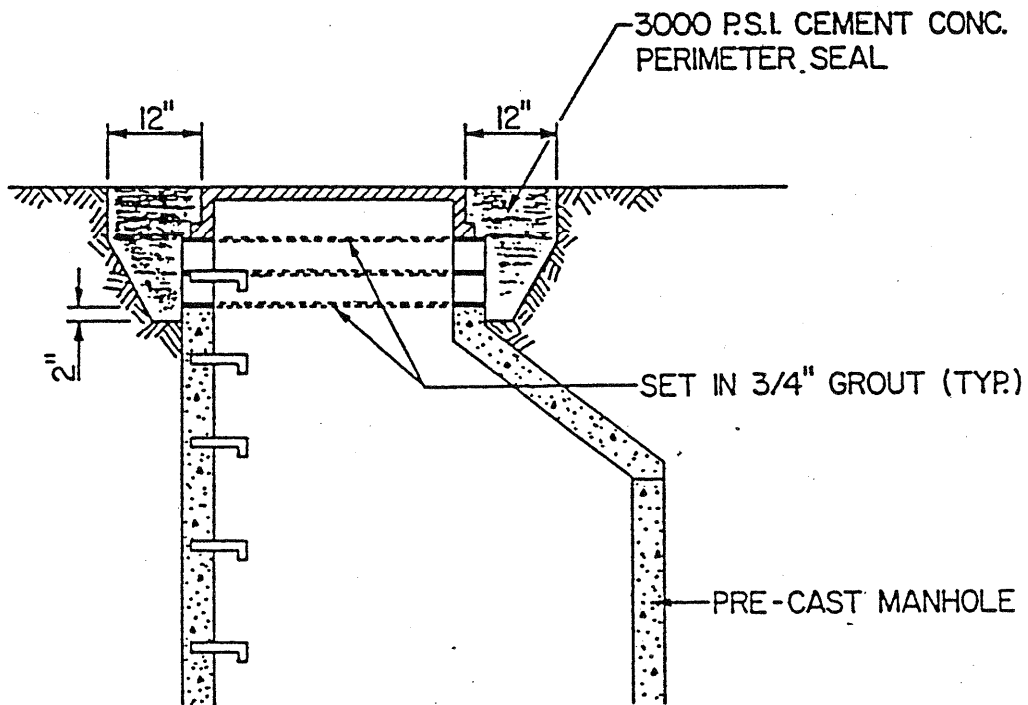
NOTE:

1. CAST IRON PAVING RISERS SHALL BE USED FOR FINAL GRADE ADJUSTMENTS IN NEW ASPHALT.
2. SEAL PAVING RINGS WITH SILICONE.

JAN. 1988

NO SCALE

 City of Issaquah PUBLIC WORKS DEPARTMENT	DRN.	MANHOLE ADJUSTMENT SECTION DETAIL	STD. DTL. NO.
	CHKD. <i>BH</i>		S-5
	APPR. <i>KZ</i>		
	DATE <i>2-18-88</i>		



JAN. 1988

NO SCALE



City of Issaquah

PUBLIC WORKS DEPARTMENT

DRN.

CHKD.

APPR.

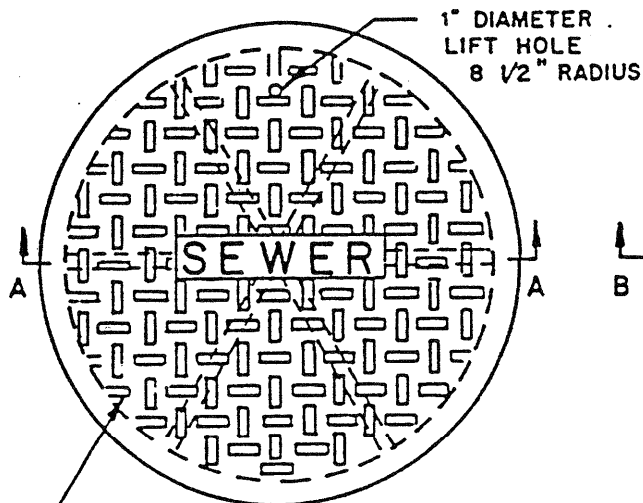
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2-13-88

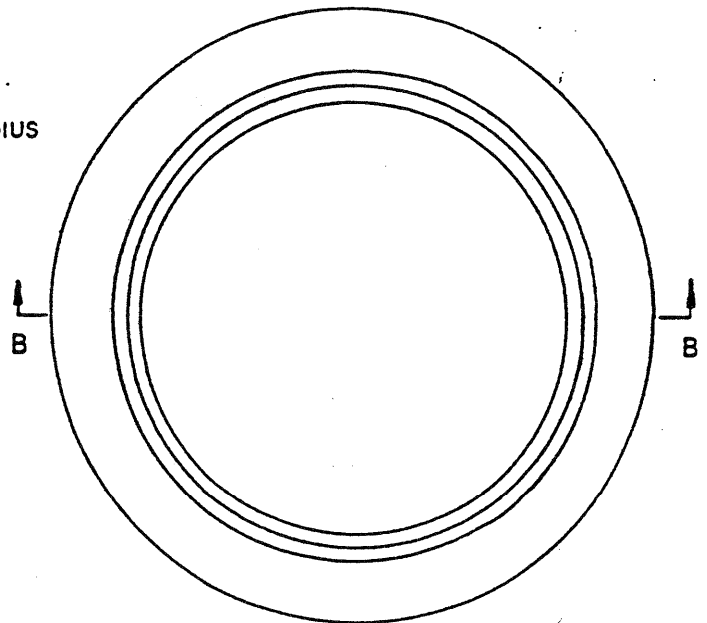
MANHOLE
ADJUSTMENT SECTION DETAIL
(UNPAVED AREAS)

STD.DTL. NO.

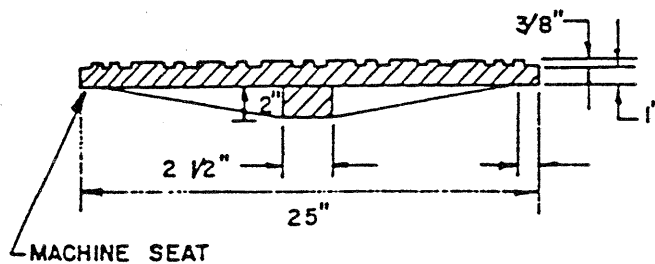
S-6



NON-SKID PATTERN TO BE CAST INTEGRAL
ON TOP OF COVER

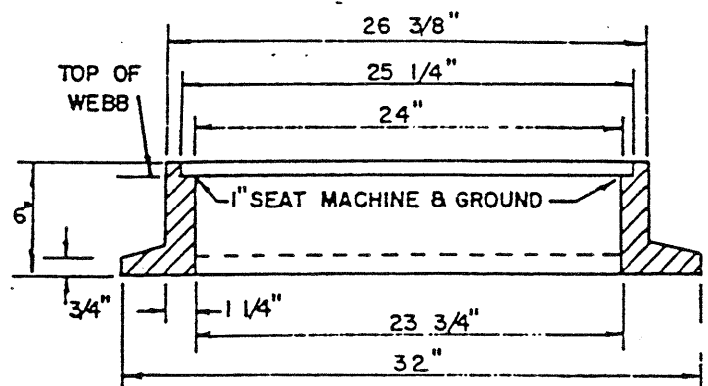


FRAME PLAN



SECTION A-A

CAST IRON — NON LOCKING COVER
MINIMUM WEIGHT 150 LBS.



SECTION B-B

CAST IRON FRAME — MIN. WEIGHT 210 LBS.
(NOT TO SCALE)

NOTES:

1. COVERS SHALL HAVE THE WORD
"SEWERS" IN 2" RAISED LETTERS.
2. FRAME AND COVER SHALL BE
A.P.W.A. PLAN NO. 42 OR OLYMPIC
FOUNDRY NO.5943. W.S. MODIFIED
TO HAVE ONE 1" DIAMETER LIFT
HOLE.
3. WHEN REQUIRED BY THE CITY
LOCKING DEVICES SHALL BE USED.

JAN. 1988

NO SCALE



City of Issaquah

PUBLIC WORKS DEPARTMENT

DRN.

CHKD. *BH*

APPR. *KZ*

DATE

2-18-88

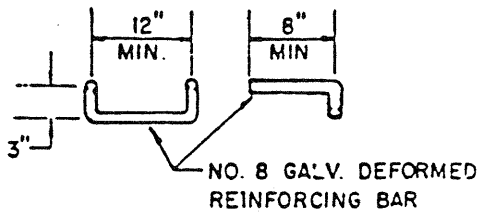
24" MANHOLE FRAME
WITH COVER

STD. DTL. NO.

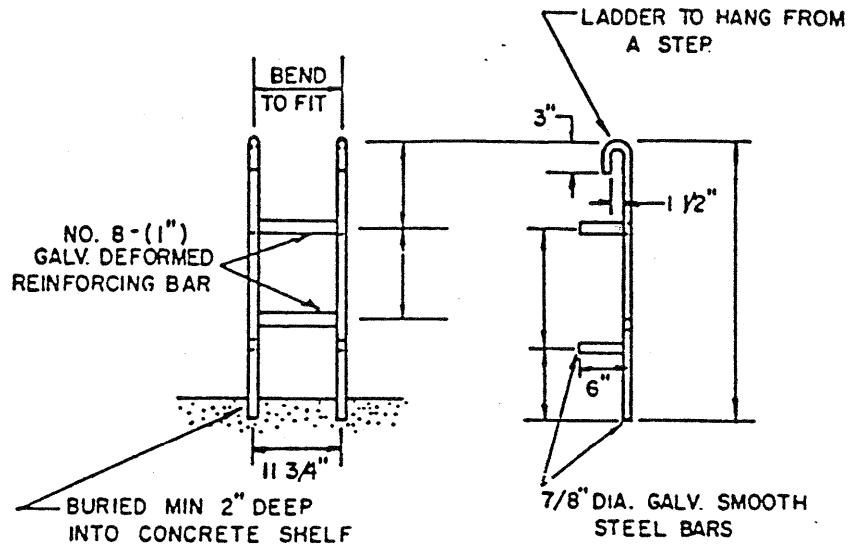
S-7

NOTES:

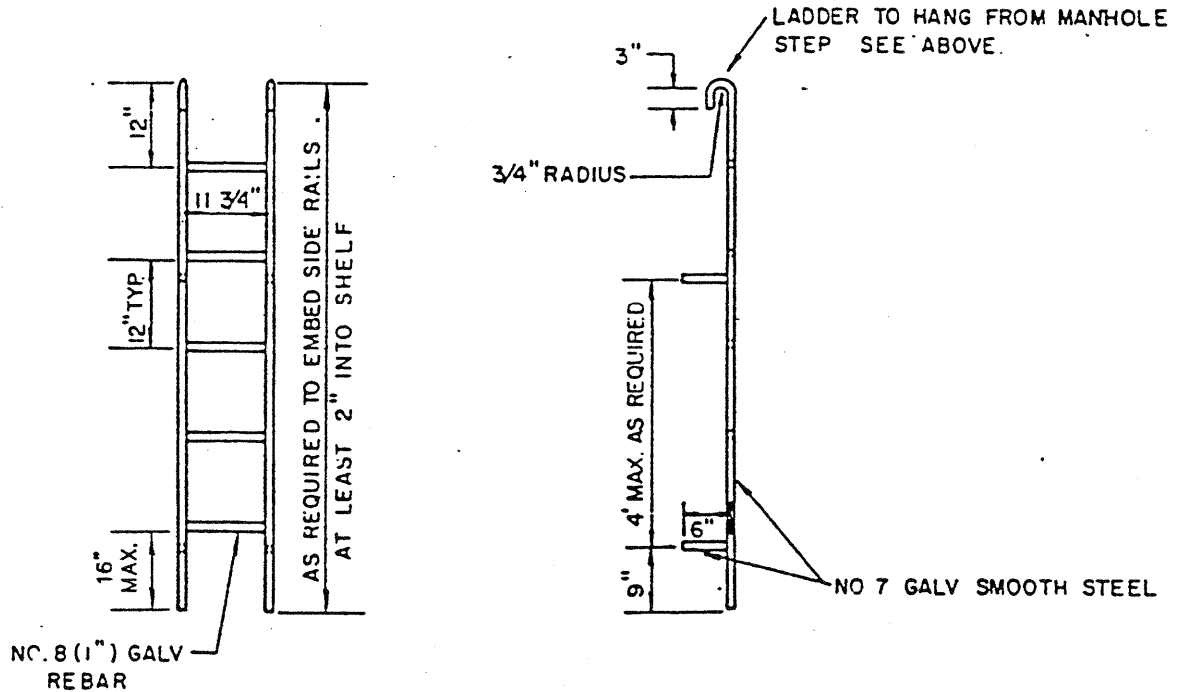
1. DEFORMED REINFORCING BAR CONFORMING TO ASTM A 615.
2. GALVANIZED CONFORMING TO ASTM A 123.



SAFETY STEP



LADDER



PREFABRICATED LADDER

JAN. 1988

NO SCALE



City of Issaquah

PUBLIC WORKS DEPARTMENT

DRN.

CHKD. *BH*

APPR. *KZ*

DATE

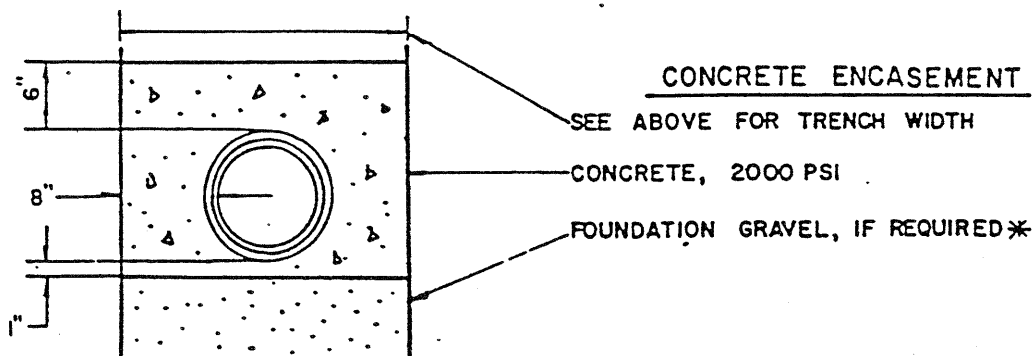
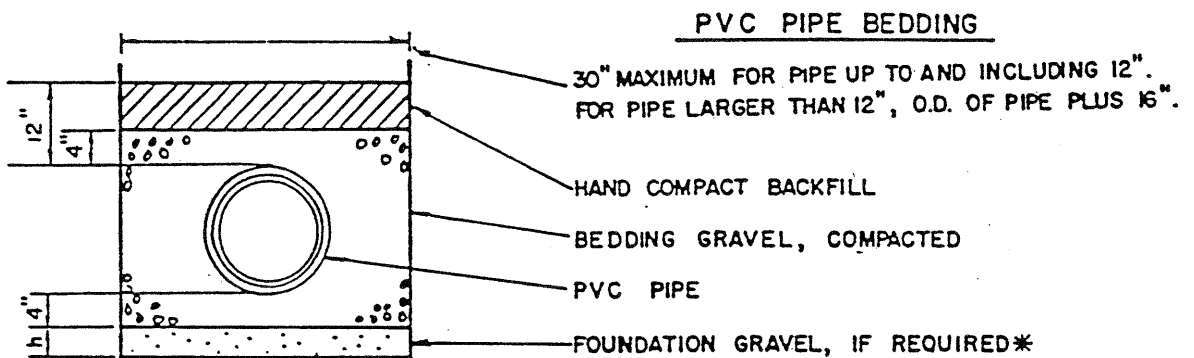
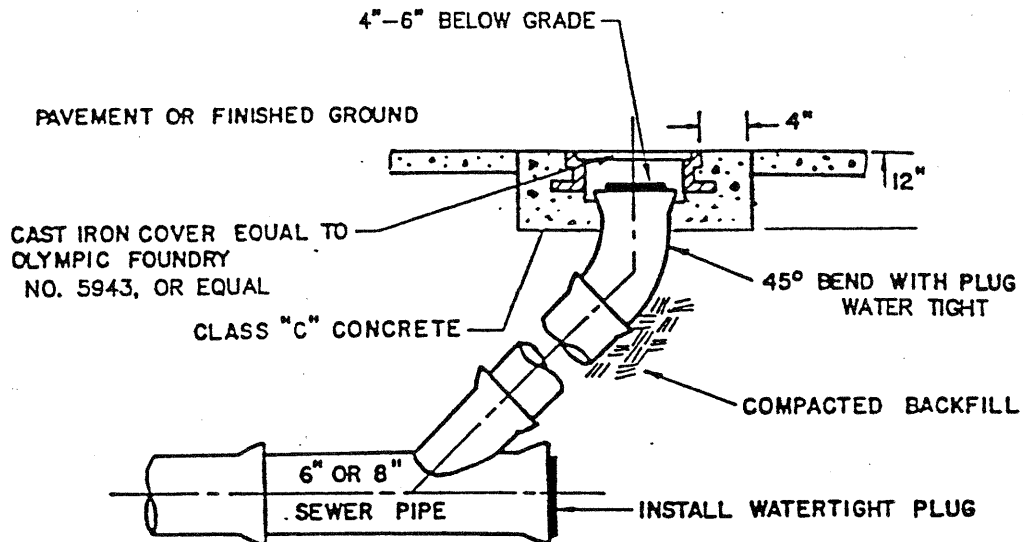
3-10-88

LADDER AND MANHOLE STEP

STD. DTL. NO.

S-8

PIPE BEDDING CLASSES



* EXCAVATE UNSTABLE MATERIAL DOWN TO FIRM SOIL AND REPLACE WITH APPROVED BACKFILL.

JAN. 1988

NO SCALE



City of Issaquah

PUBLIC WORKS DEPARTMENT

DRN.

CHKD.

APPR.

DATE

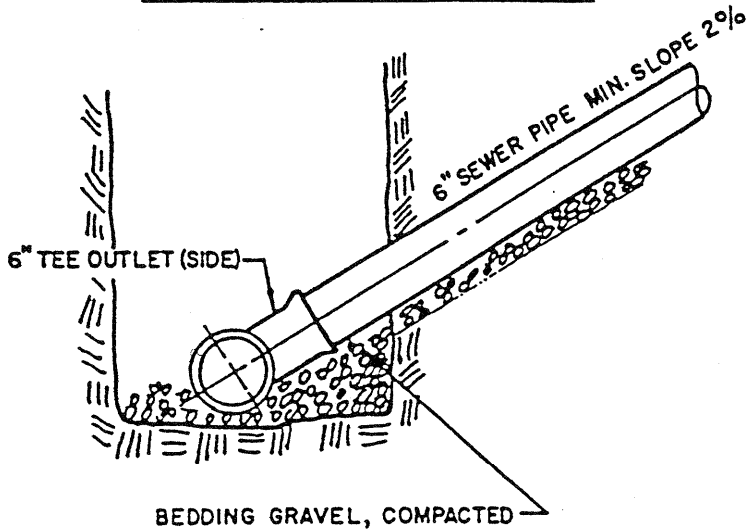
2-18-88

PIPE BEDDING
AND CLEANOUTS

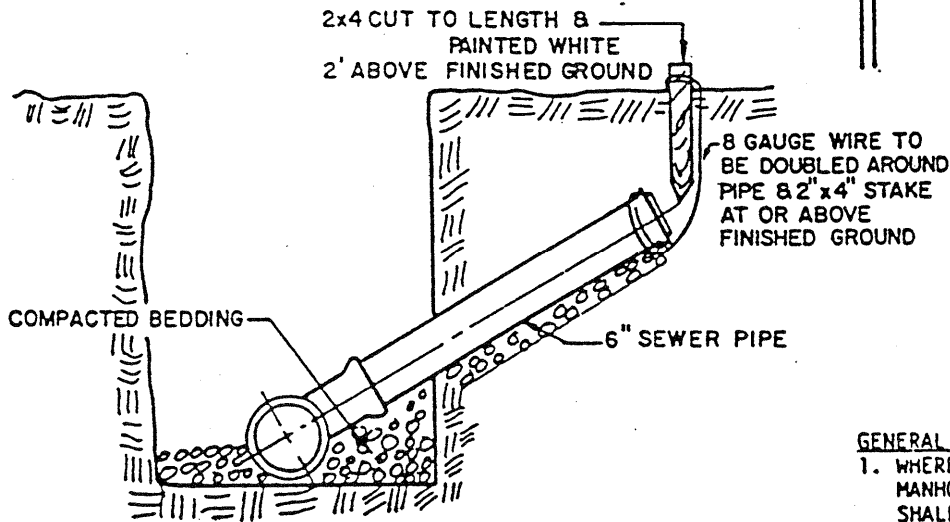
STD.DTL. NO.

S-9

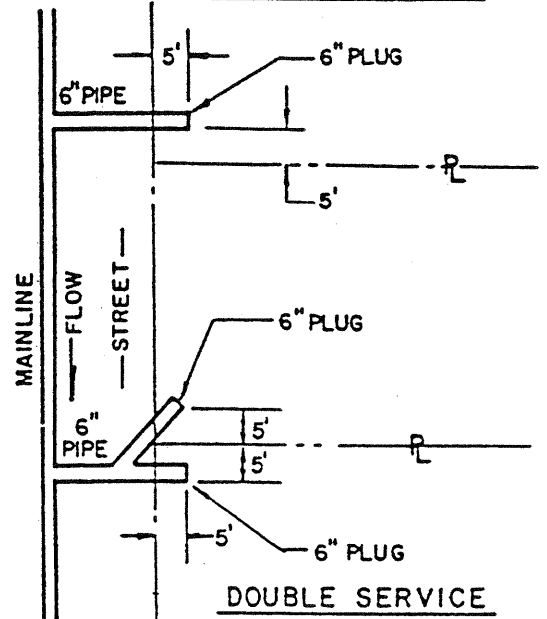
CONNECTION AT SEWER MAIN



PLUGGED STUB ON SEWER MAIN



SINGLE SERVICE



GENERAL NOTES:

1. WHERE SIDE SEWER CONNECTS TO MANHOLE: INVERT OF SIDE SEWER SHALL BE EQUAL TO OR ABOVE MAIN SEWER CROWN, BUT NOT TO EXCEED 18" ABOVE INVERT OF MAIN SEWER.
2. UNLESS OTHERWISE INDICATED ON PLAN, SIDE SEWER SHALL BE MIN. OF 6' DEEP AT PROPERTY LINE, OR 5' LOWER THAN THE LOWEST ELEVATION, WHICH EVER IS LOWER.
3. TAPS ON EXISTING LINES WILL BE CORE BORED AND ROMAC STYLE "CB" SEWER SADDLE USED.

JAN. 1988

NO SCALE



City of Issaquah

PUBLIC WORKS DEPARTMENT

DRN.

CHKD.

APPR.

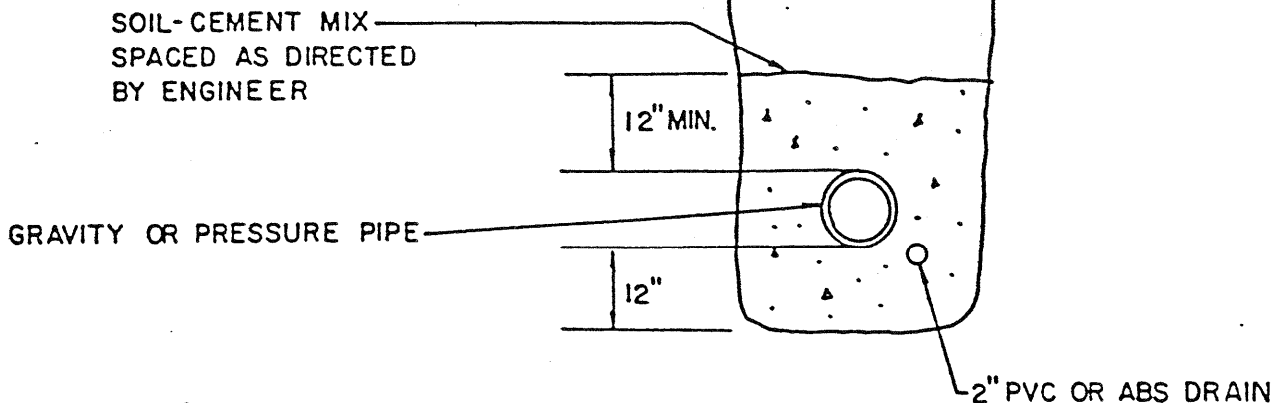
DATE

2-18-88

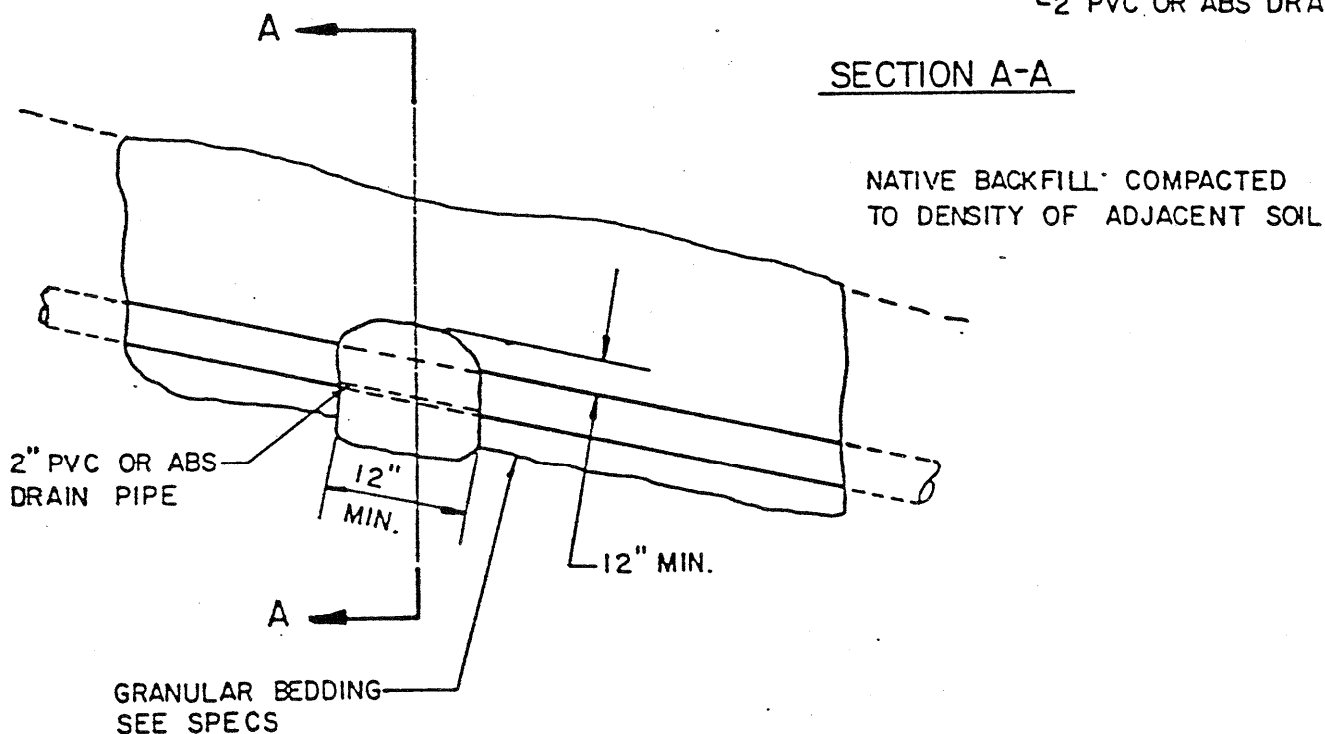
SIDE SEWER STUBS

STD.DTL. NO.

S-10



SECTION A-A



NOTES:

1. SOIL CEMENT BLOCKS PLACED OVER AND AROUND PIPE. TAMPED INTO PLACE BEFORE PLACING BACKFILL. USE 10% CEMENT WITH 90% NATIVE SOIL AND WATER TO SUIT TO FORM A DRY MIX THAT WILL HOLD ITS SHAPE WHEN MOLDED INTO A BALL. SOIL CEMENT BLOCKS REQUIRED ON SLOPES 20% OR GREATER.

JAN. 1988 NO SCALE



City of Issaquah

PUBLIC WORKS DEPARTMENT

DRN.

CHKD. *BH*

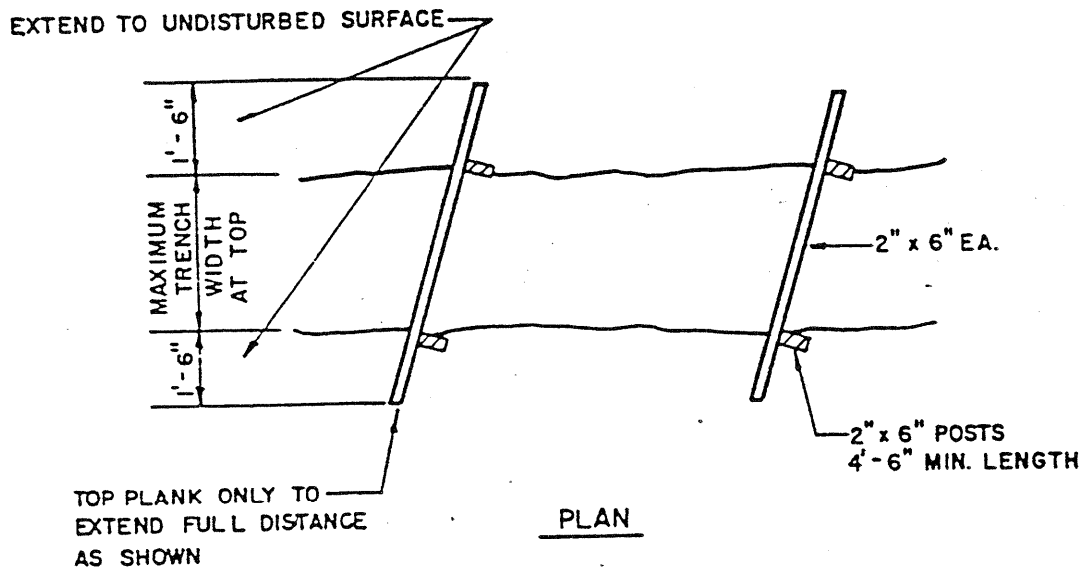
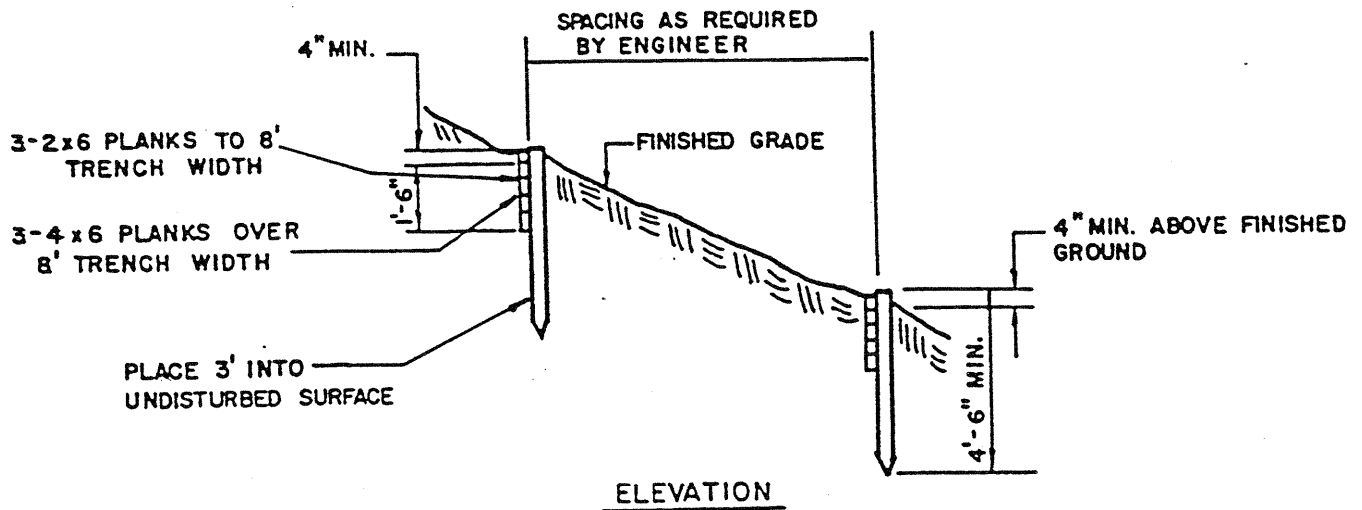
APPR. *KZ*

DATE *2-18-88*

SOIL / CEMENT
PIPE ANCHOR

STD. DTL. NO.

S-11



TIMBER BAFFLE HILL HOLDER

JAN. 1988

NO SCALE



City of Issaquah

PUBLIC WORKS DEPARTMENT

DRN.

CHKD.

APPR.

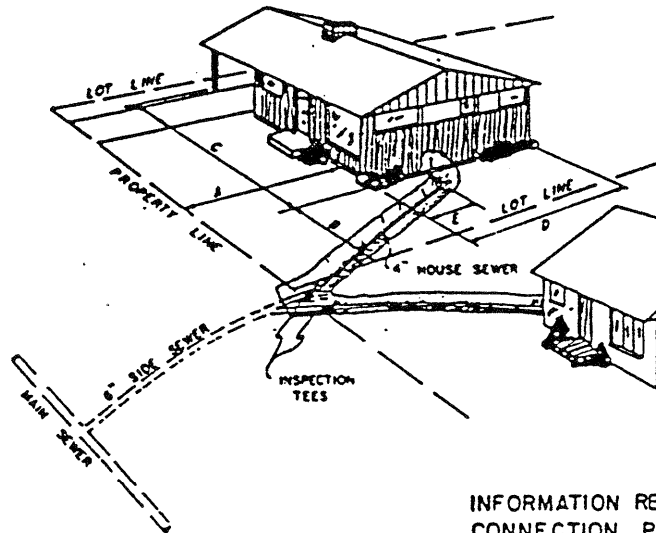
DATE

2-18-88

TIMBER BAFFLE / HILL HOLDER

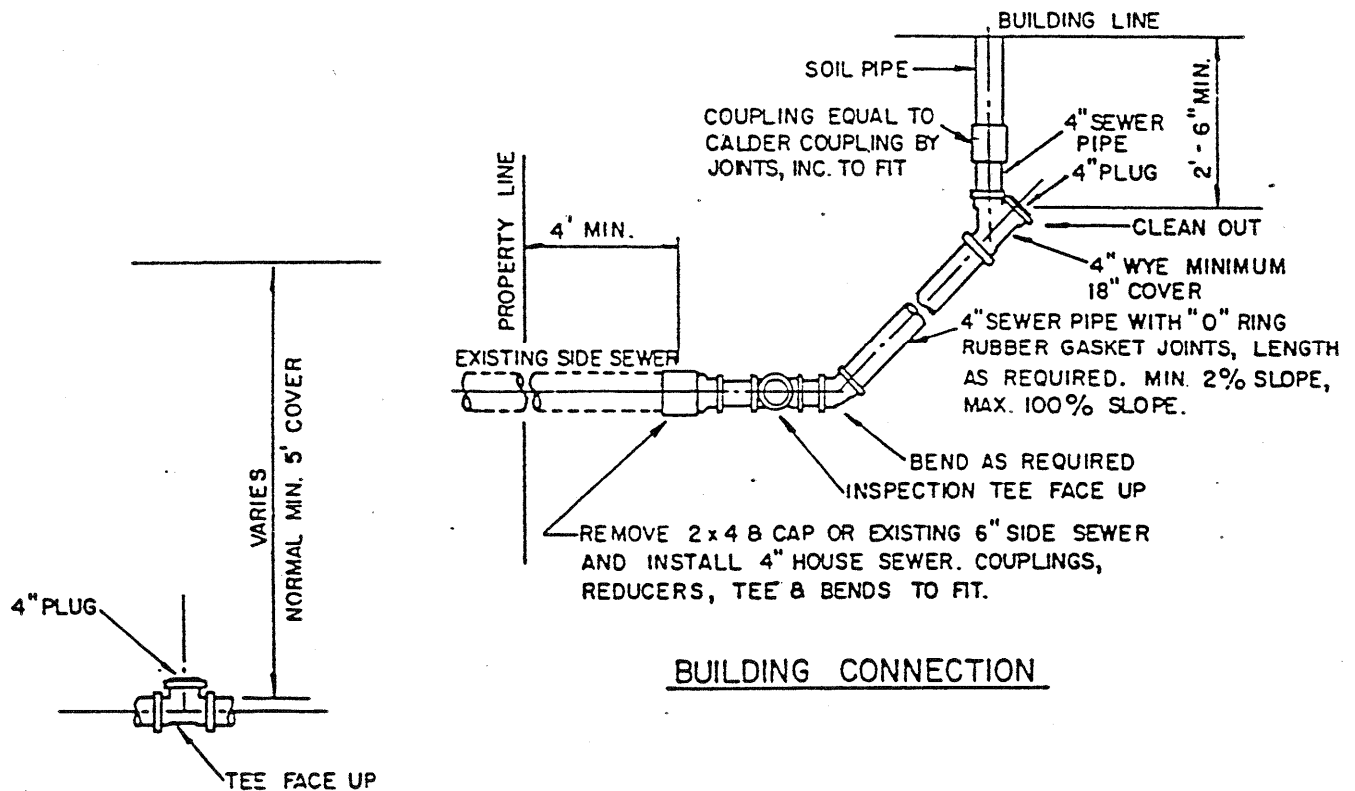
STD.DTL. NO

S-12



INFORMATION REQUIRED FOR SEWER
CONNECTION PERMIT:
LEGAL DESCRIPTION, STREET ADDRESS,
AND PLAN WITH DIMENSIONS A THRU E
SHOWN. COMPLETION OF SIDE SEWER APPLICATION.

TYPICAL HOUSE SEWER IN PRIVATE PROPERTY



BUILDING CONNECTION

INSPECTION TEE

JAN. 1988

NO SCALE



City of Issaquah

PUBLIC WORKS DEPARTMENT

DRN.

CHKD.

APPR.

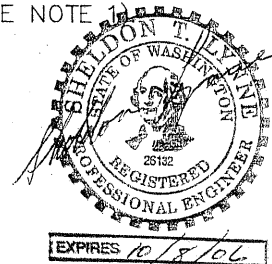
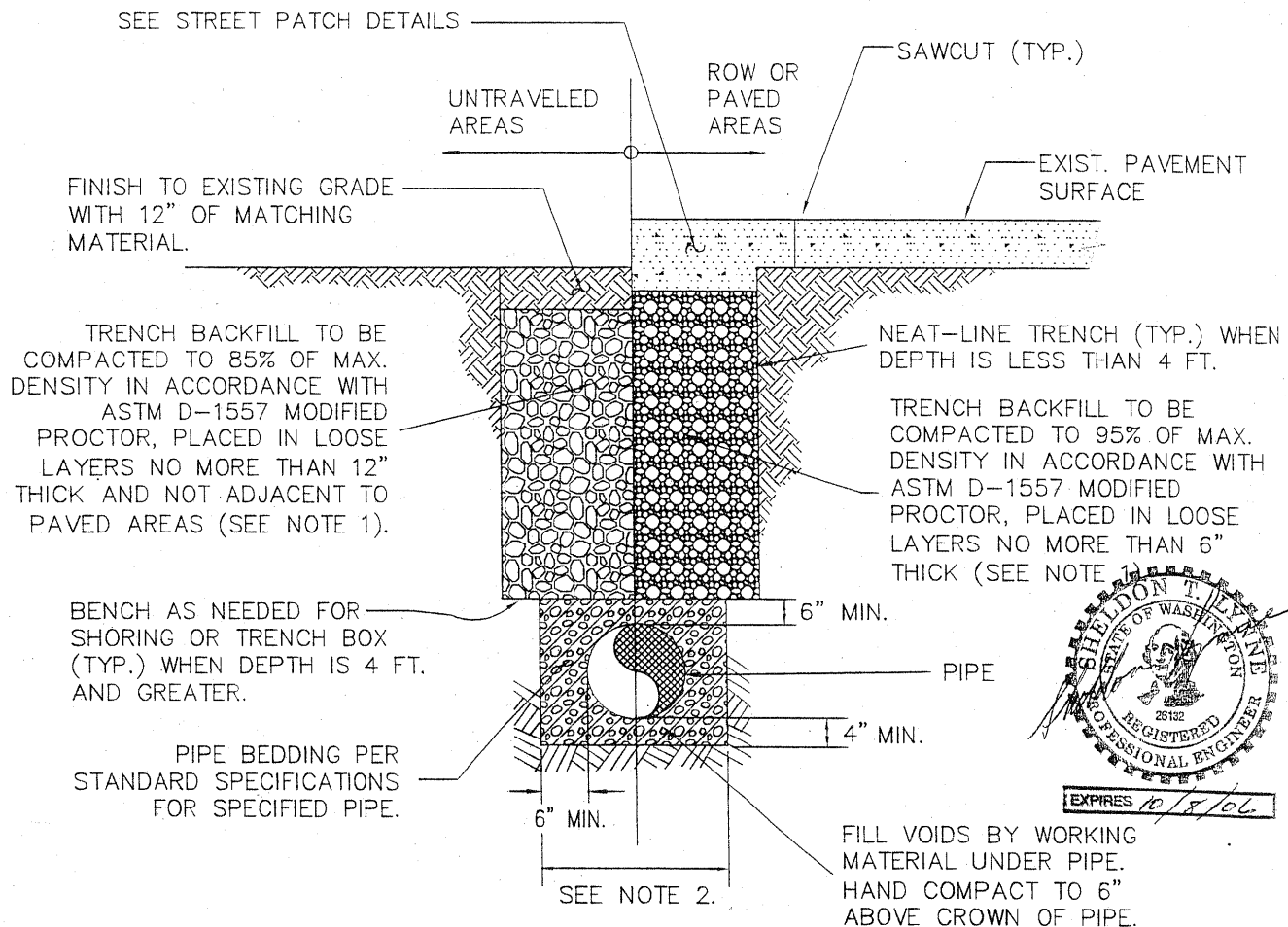
DATE

2-18-88

HOUSE SEWER CONNECTION

STD.DTL. NO.

S-13

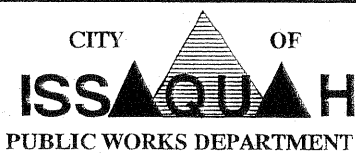


NOTES:

1. TRENCH BACKFILL MATERIAL TO BE WELL GRADED "COMMON BORROW" FREE OF CLODS OR ROCKS GREATER THAN 3" IN ANY DIMENSION WITH A MOISTURE CONTENT WITHIN 2% OF OPTIMUM - WSDOT STD SPEC 9-03.14 (3).
2. MAXIMUM WIDTH OF TRENCH AT TOP OF PIPE.
 - * 30" FOR PIPE UP TO AND INCLUDING 12" NOMINAL DIAMETER.
 - * O.D. PLUS 16" FOR PIPE LARGER THAN 12" NOMINAL DIAMETER.
3. CDF REQUIRED WHEN CROSSING EXISTING STREETS.
4. COMPACTION TESTING AND PROCTOR REQUIRED. ONE TEST PER LIFT PER 100' OF TRENCH. MINIMUM 2 TESTS PER LIFT.
5. MAXIMUM TYPICAL TRENCH DEPTH IS 48". DEEPER TRENCHES MUST BE IDENTIFIED VIA SEPARATE UTILITY PROFILE DESIGN AND APPROVED BY THE CITY ENGINEER OR DESIGNEE.
6. COMPACTION TESTING AT DEPTHS GREATER THAN 4' IN TRENCHES MAY BE ACCOMPLISHED BY MAINTAINING A COMPACTION PATTERN PROVEN TO MEET COMPACTION REQUIREMENTS.

REVISION: AUG 3, 2005

NO SCALE



DRN.

CHKD.

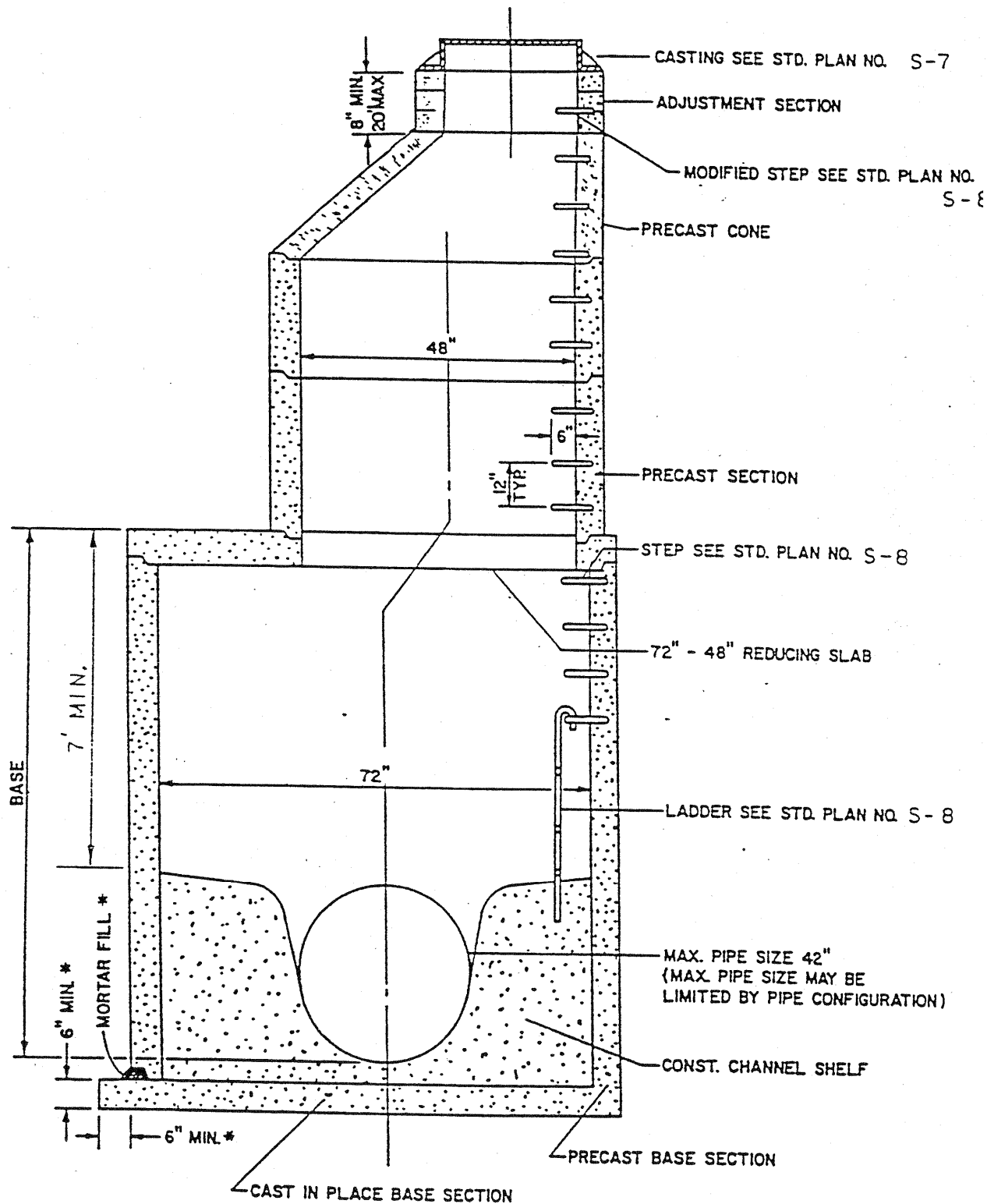
APPR.

DATE

TYPICAL PIPE TRENCH DETAIL

STANDARD
DETAIL NO.

S-14



* APPLIES TO CAST IN PLACE BASE SECTION.

JAN. 1988

NO SCALE



City of Issaquah

PUBLIC WORKS DEPARTMENT

DRN.

CHKD.

APPR.

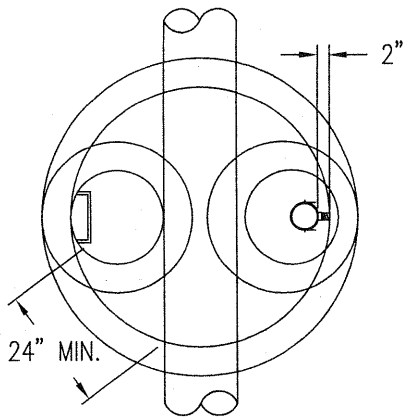
DATE

2-18-88

TYPE II - 72" MANHOLE

STD.DTL. NO

S-15



**MANHOLE
PLAN VIEW**

NOTES:

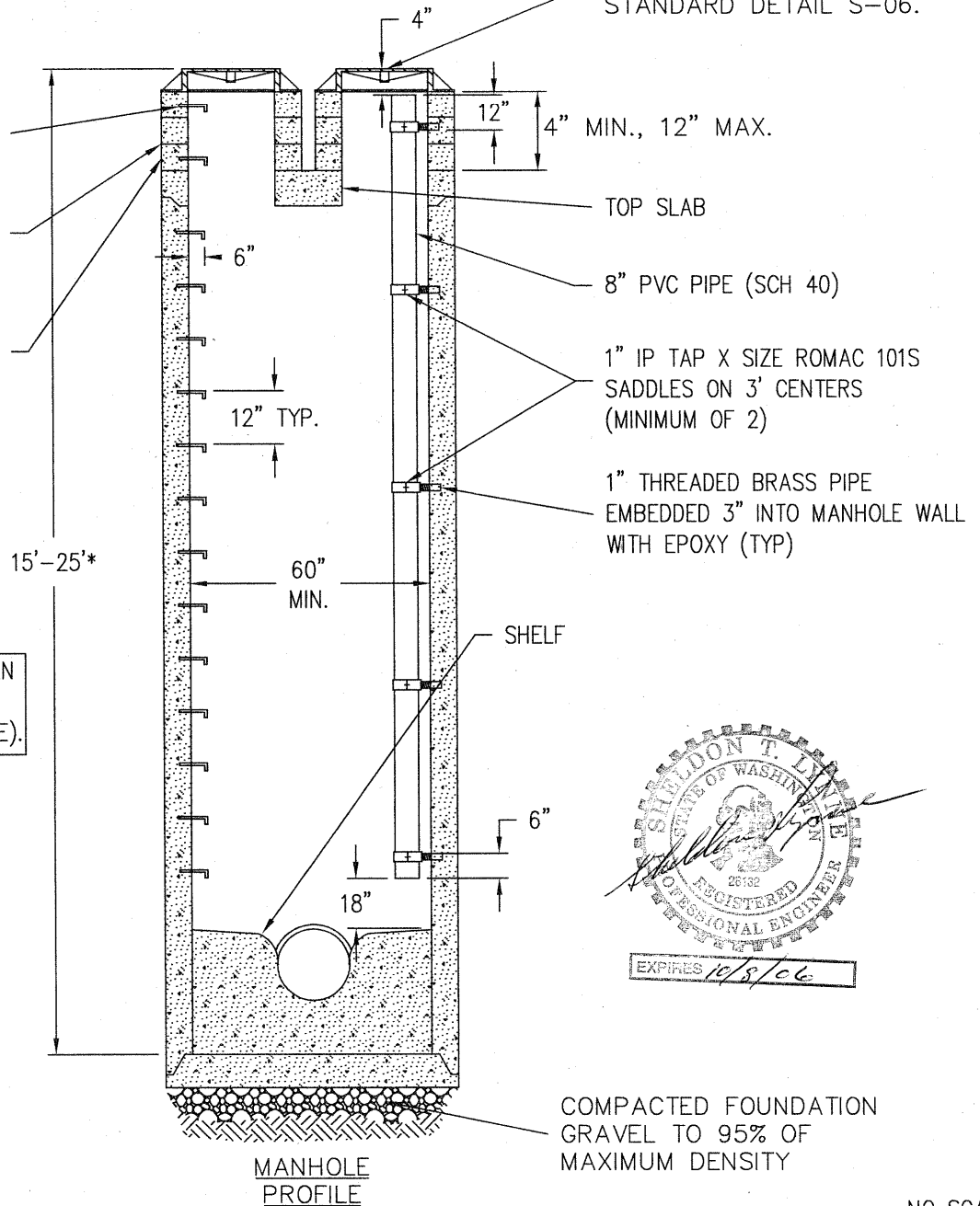
1. PROVIDE TWO 24" ACCESS LIDS.
2. MANHOLE SHALL CONFORM TO GENERAL NOTES AND ALL APPLICABLE REQUIREMENTS OF STANDARD DETAILS S-1.
3. MANHOLES SHALL BE CONSTRUCTED IN ACCORDANCE WITH AASHTO M199 UNLESS OTHERWISE SHOWN ON PLANS OR NOTED IN THE STANDARD SPECIFICATIONS.
4. ALL REINFORCED CAST-IN-PLACE CONCRETE SHALL BE CLASS 4000. NON-REINFORCED CONCRETE IN CHANNEL AND SHELF SHALL BE CLASS 3000. ALL PRECAST CONCRETE SHALL BE CLASS 4000.
5. PRECAST BASES SHALL BE FURNISHED WITH CUTOUTS OR KNOCKOUTS. KNOCKOUTS SHALL HAVE WALL THICKNESS OF 2" MIN. UNUSED KNOCKOUTS NEED NOT BE GROUTED IF WALL IS LEFT INTACT. PIPES SHALL BE INSTALLED ONLY IN FACTORY KNOCKOUTS UNLESS OTHERWISE APPROVED BY THE ENGINEER.
6. TOP SLAB MUST MEET HS20 LOADING CRITERIA.

MANHOLE COVER, SEE
STANDARD DETAIL S-06.

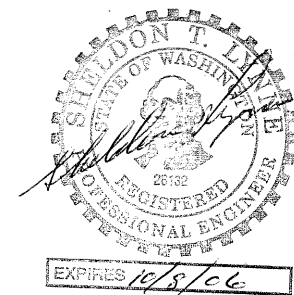
FIRST STEP MAXIMUM
18" BELOW COVER PER
STD. DETAIL S-07.

3/4" PLASTER SMOOTH
INSIDE & OUT

PRECAST CONCRETE
RINGS MUST BE CAST
WITH GROOVE TO FIELD
INSTALL SAFETY STEP



*STRUCTURES GREATER THAN
25' DEEP REQUIRE SPECIAL
DESIGN (STD NOT AVAILABLE).



**MANHOLE
PROFILE**

COMPACTED FOUNDATION
GRAVEL TO 95% OF
MAXIMUM DENSITY

REVISION: MAY 4, 2005

NO SCALE

